△ GENERAL

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR REQUIREMENTS OF KUNA CITY PUBLIC WORKS DEPARTMENT, THE ADA COUNTY HIGHWAY DISTRICT, AND/OR THE ISPWC (LATEST EDITION)
- 2. A PRE CONSTRUCTION CONFERENCE WILL BE HELD A MINIMUM OF 48 HOURS PRIOR TO START OF WORK. ALL CONTRACTORS, SUBCONTRACTORS AND/OR UTILITY CONTRACTORS SHOULD BE PRESENT. THE CONTRACTOR SHALL NOTIFY KUNA CITY WHEN SHUTTING
- DOWN A JOB FOR ANY REASON AND PROVIDE 48 HOURS NOTICE BEFORE RESTARTING WORK AGAIN. 3. ALL LOT DIMENSIONS, EASEMENTS AND CERTAIN OFF-SITE EASEMENTS ARE TO BE TAKEN FROM THE PLAT OF GREYHAWK SUBDIVISION NO.
- 4. WHERE IT IS NECESSARY FOR NON POTABLE WATER LINE AND POTABLE WATER LINE TO CROSS EACH OTHER AND THE NON POTABLE LINE IS LESS THAN 18" BELOW OR ABOVE THE WATER MAIN, THE NON POTABLE WATER LINE SHALL BE CONSTRUCTED WITH POTABLE WATER CLASS 200 PIPE FOR A MINIMUM OF TEN FEET EITHER SIDE OF POTABLE PIPELINE WITH A SINGLE TWENTY FOOT SECTION OF WATER CLASS 200 PIPE CENTERED ON THE CROSSING. PRESSURE SEWAGE MAINS SHALL BE NO CLOSER THAN 18 INCHES FROM POTABLE MAINS IN LIEU OF CONSTRUCTING OR RECONSTRUCTING, THE NON POTABLE WATER LINE TO CONFORM TO WATER MAIN STANDARDS, THE POTABLE WATER LINE MAY BE PROTECTED BY A SLEEVING MATERIAL ACCEPTABLE TO THE DEPARTMENT OF ENVIRONMENTAL QUALITY FOR A DISTANCE OF 10 HORIZONTAL FEET ON BOTH SIDES OF CROSSING.
- 5. CONTRACTOR(S) SHALL REMOVE ALL OBSTRUCTIONS, BOTH ABOVE AND BELOW GROUND, AS REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. THIS SHALL INCLUDE CLEARING AND GRUBBING WHICH CONSISTS OF CLEARING THE GROUND SURFACE OF ALL TREES, STUMPS BRUSH, UNDERGROWTH, HEDGES, HEAVY GROWTH OF GRASS OR WEEDS, FENCES STRUCTURES, DEBRIS, RUBBISH AND SUCH MATERIAL WHICH, IN THE OPINION OF THE ENGINEER, IS UNSUITABLE FOR THE FOUNDATION OF PAVEMENTS. ALL MATERIAL NOT SUITABLE FOR FUTURE USE ON SITE SHALL BE DISPOSED OF OFF SITE.
- 6. SURVEY CONTROL POINTS WHICH ARE CRITICAL TO THE CONSTRUCTION OF THE PROJECT ARE TO BE LOCATED WITHIN THE LIMITS OF WORK. THE CONTRACTOR SHALL TAKE PRECAUTION TO PROTECT THE POINTS IN PLACE.
- 7. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE FACILITIES WITHIN THE CONSTRUCTION AREA UNTIL REPLACEMENT DRAINAGE IMPROVEMENTS ARE IN PLACE AND FUNCTIONING.
- ALL CONTRACTORS WORKING WITHIN THE PROJECT BOUNDARIES ARE RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE SAFETY LAWS OF ANY JURISDICTIONAL BODY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BARRICADES, SAFETY DEVICES AND CONTROL OF TRAFFIC WITHIN AND AROUND THE CONSTRUCTION AREA.
- 9. EXISTING A.C. PAVEMENT SHALL BE CUT TO A NEAT STRAIGHT LINE PARALLEL OR PERPENDICULAR TO THE STREET CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING.
- 10. ALL MATERIALS FURNISHED ON OR FOR THE PROJECT MUST MEET THE MINIMUM REQUIREMENTS OF THE APPROVING AGENCIES OR AS SET FORTH HEREIN. WHICHEVER IS MORE RESTRICTIVE.
- 11. CONTRACTORS MUST FURNISH PROOF THAT ALL MATERIALS INSTALLED ON THIS PROJECT MEET THE REQUIREMENTS OF ITEM #10 AT THE REQUEST OF THE AGENCY AND/OR THE ENGINEER.
- 12. ALL CONTRACTORS WORKING WITHIN THE PUBLIC ROAD RIGHT-OF-WAY ARE REQUIRED TO SECURE A RIGHT- OF-WAY PERMIT FROM ACHD AT LEAST 24 HOURS PRIOR TO ANY CONSTRUCTION.
- 13. ALL COSTS OF RETESTING FOR PREVIOUSLY FAILED TESTS SHALL BE BACK CHARGED TO THE CONTRACTOR BY THE OWNER.
- 14. ALL COSTS TO THE CONTRACTOR INCURRED IN CORRECTING DEFICIENT WORK SHALL BE TO THE CONTRACTORS ACCOUNT. FAILURE TO
- CORRECT SUCH WORK WILL BE CAUSE FOR A STOP WORK ORDER AND POSSIBLE TERMINATION. 15. THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, CHANNEL CROSSINGS AND SEWER ELEVATIONS OR
- INVERTS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS. 16. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- 17. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ANY NECESSARY NPDES PERMITS. FILING ANY NOI'S, AND PREPARING A
- POLLUTION PREVENTION PLAN (PPP) IN ACCORDANCE WITH ENVIRONMENTAL PROTECTION AGENCY REGULATIONS. CONTACT THE EPA AT (208) 378-5746 FOR THE REQUIRED INFORMATION. SAID PERMIT SHALL BE PRESENTED TO THE ENGINEER AT LEAST 48 HOURS PRIOR TO

18. ALL UTILITIES, INCLUDING SERVICE LINES, WITHIN STREET TRAVEL WAYS SHALL BE IN PLACE PRIOR TO CURB, GUTTER, SIDEWALKS AND

- 19. PIPE CONTRACTOR SHALL REPLACE ALL PAVEMENT AND CONCRETE REMOVED FOR THE INSTALLATION OF WATER, SEWER, OR IRRIGATION
- PIPE. ALL PAVEMENT SHALL BE REPLACED WITHIN SEVEN CALENDAR DAYS FROM THE TIME THE PAVEMENT AND/OR CONCRETE IS REMOVED. CONCRETE AND PAVEMENT SHALL BE REPLACED PER ISPWC AND ACHD STANDARDS
- 20. NO PAVING SHALL OCCUR UNTIL THE CONTRACTOR OBTAINS WRITTEN APPROVAL OF ALL INSTALLED WATER, SEWER, AND PRESSURE IRRIGATION FACILITIES FROM THE CITY OF KUNA.
- 21. IN AREAS WHERE ROCK EXCAVATION IS REQUIRED ALL BLASTING FOR OTHER UTILITIES SHALL OCCUR PRIOR TO INSTALLATION OF ANY SEWER MAINS, WATER MAINS, PRESSURE IRRIGATION MAINS OR SERVICE LINE CROSSINGS. BLASTING FOR ROCK EXCAVATION IN THE PROXIMITY OF EXISTING UTILITIES FROM PREVIOUS PHASES OF THE SUBDIVISION OR NEIGHBORING SUBDIVISIONS MAY BE PERFORMED AS ONG AS IT IS EQUAL DISTANCE HORIZONTAL AS IS THE EXCAVATION DEPTH FROM THE EXISTING UTILITY OR A MINIMUM OF 15 FEET, WHICHEVER IS GREATER. THE CONTRACTOR PERFORMING THE BLASTING SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY EXISTING
- 22. THE DEVELOPER IS REQUIRED TO RETAIN A QUALIFIED REGISTERED ENGINEER TO PERFORM INSPECTION SERVICES DURING CONSTRUCTION. THE ENGINEER SHALL FURNISH CITY A WRITTEN CERTIFICATION THAT THE PROJECT WAS COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. COPIES OF ALL AIR TESTS, DEFLECTION TESTS, PRESSURE TESTS, AND BACTERIOLOGICAL TEST RESULTS SHALL BE FURNISHED WITH THE CERTIFICATION LETTER.
- 23. THE CITY OF KUNA WILL PROVIDE PERIODIC INSPECTION AND OBSERVE TESTING FOR AN EIGHT HOUR DAY, FROM 8:00 A.M. TO 5:00 P.M., FOR A FORTY HOUR WEEK. THE CONTRACTOR SHALL REIMBURSE THE CITY AT RATES ESTABLISHED BY THE CITY FOR INSPECTION IN EXCESS OF THE NORMAL WORK WEEK, INCLUDING LEGAL HOLIDAYS. OVERTIME INSPECTION RATES AND A LIST OF LEGAL HOLIDAYS CAN BE OBTAINED FROM THE CITY PUBLIC WORKS DEPARTMENT.
- 24. ALL PLANS USED FOR CONSTRUCTION SHALL BEAR THE CITY OF KUNA "APPROVED FOR CONSTRUCTION" STAMP. THE DEVELOPER OR HIS ENGINEER SHALL DELIVER THE ORIGINAL DRAWINGS TO THE CITY ENGINEER FOR APPLICATION OF THE APPROVAL STAMP FOLLOWING APPROVAL BY ALL OTHER AGENCIES AND PRIOR TO PRINTING THE FINAL PLAN SETS FOR CONSTRUCTION. COPIES OF AGENCY APPROVAL FTTERS SHALL BE SUBMITTED WITH THE ORIGINAL DRAWINGS TO RECEIVE THE APPROVAL STAMP. ALL PLANS PRINTED FOR CONSTRUCTION SHALL BE PRINTED ON A PALE YELLOW PAPER. THREE COMPLETE SETS OF FINAL CONSTRUCTION PLANS FOR THE WATER, SEWER, PRESSURE IRRIGATION AND ROADWAY IMPROVEMENTS SHALL BE FURNISHED TO THE CITY PRIOR TO BEGINNING CONSTRUCTION. USE OF ANY PLANS WITHOUT THE KUNA "APPROVED FOR CONSTRUCTION" STAMP DURING CONSTRUCTION WILL BE CAUSE FOR A STOP WORK ORDER BY THE CITY. ANY MODIFICATIONS DURING CONSTRUCTION MUST BE APPROVED IN WRITING BY THE CITY
- 25. WHEN CONSTRUCTION IS SATISFACTORILY COMPLETED, CLEANED AND TESTED THE DEVELOPER SHALL REQUEST A FINAL ACCEPTANCE INSPECTION BY THE CITY. THE FINAL ACCEPTANCE INSPECTION SHALL OCCUR AFTER ALL OTHER UTILITIES ARE INSTALLED. AT A MINIMUM, THE FINAL ACCEPTANCE INSPECTION SHALL CONSIST OF CLEANING ALL SEWER MAINS, VISUALLY INSPECTING EACH MANHOLE WITNESSING A FINAL SEWER AIR TEST AND WATER PRESSURE TEST, PRESSURE IRRIGATION PRESSURE TEST, DEFLECTION TESTING OF THE SEWER MAINS, VISUAL INSPECTION OF THE SEWER MAINS, AND PROVIDING A DVD VIDEO OF ALL SEWER MAIN VISUAL INSPECTION. ALL TESTING IS TO BE PROVIDED AND PAID FOR BY THE DEVELOPER AS PART OF SUBDIVISION OBLIGATIONS.
- 26. THE CITY HAS THE RIGHT TO INSPECT THE WORK AT ANY TIME DURING CONSTRUCTION. ANY WORK THAT DOES NOT CONFORM TO THE APPROVED PLANS AND SPECIFICATIONS SHALL BE REJECTED.
- 27. THE DEVELOPER SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FOLLOWING ACCEPTANCE BY THE CITY. THIS GUARANTEE SHALL COVER ALL DAMAGE TO THE CITY UTILITY SYSTEMS OF ANY KIND. DEVELOPER SHALL NOTIFY ALL PURCHASERS OF LOTS, AND THEIR CONTRACTORS, THAT CITY UTILITY SYSTEMS HAVE BEEN ACCEPTED BY THE CITY. ANY DAMAGE TO THESE SYSTEMS DURING HOME CONSTRUCTION SHALL BE BILLED DIRECTLY TO THE OWNER OF RECORD AT THE TIME THE DAMAGE IS FOUND. THE DEVELOPER SHALL FURNISH THE CITY ONE (1) FULL SIZE SET OF MYLAR RECORD DRAWINGS, ONE (1) SET OF ELECTRONIC DRAWINGS ON CD, AND THREE (3) 11 X 17 SETS ON WHITE PAPER WITHIN 30 DAYS OF FINAL ACCEPTANCE.

ROADWAY

- I. ALL CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE CURRENT EDITION OF THE ISPWC AND THE ACHD SUPPLEMENTAL SPECIFICATIONS. NO EXCEPTIONS TO DISTRICT POLICY, STANDARDS, AND THE ISPWC WILL BE ALLOWED UNLESS SPECIFICALLY AND PREVIOUSLY APPROVED IN WRITING BY THE DISTRICT. WHEN DISCREPANCIES OCCUR BETWEEN PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER. UNTIMELY NOTIFICATION SHALL NEGATE ANY CONTRACTORS CLAIM FOR ADDITIONAL COMPENSATION. 3. INSPECTION OF WORK WITHIN THE RIGHT-OF-WAYS SHALL BE BY THE ADA COUNTY HIGHWAY DISTRICT AND THE OWNER'S ENGINEER. CONTACT ACHD INSPECTION SERVICES AT 387-6284 TO SCHEDULE INSPECTIONS. 48 HOUR ADVANCED NOTICE IS REQUIRED. 4. ALL TOPS OF VALVE BOXES AND SEWER MANHOLES SHALL BE SET FLUSH WITH THE SLOPE OF THE FINISHED STREET GRADES. THE ROADWAY CONTRACTOR SHALL INSTALL AND ADJUST ALL SPACERS, GRADE RINGS, MANHOLE RINGS AND LIDS. 5. EXISTING A.C. PAVEMENT SHALL BE CUT TO A NEAT STRAIGHT LINE (2' MINIMUM CUT BACK) PARALLEL OR PERPENDICULAR TO THE STREET CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVÍNG. . ALL COSTS OF RETESTING FOR PREVIOUSLY FAILED TESTS SHALL BE BACKCHARGED TO THE CONTRACTOR BY THE OWNER 7. ALL COSTS TO THE CONTRACTOR INCURRED IN CORRECTING DEFICIENT WORK SHALL BE TO THE CONTRACTORS ACCOUNT. FAILURE TO CORRECT SUCH WORK WILL BE CAUSE FOR A STOP WORK ORDER AND POSSIBLE TERMINATION.
- ALL STORM DRAINAGE APPURTENANCES SHALL BE INSPECTED AND CERTIFIED BY ADA COUNTY HIGHWAY DISTRICT.

 ALL WATER VALVES WILL BE PLACED SO AS NOT TO CONFLICT WITH ANY CONCRETE CURB, GUTTER, VALLEY GUTTER, AND SIDEWALK IMPROVEMENTS. 10. ALL WATER METERS ARE TO BE LOCATED OUTSIDE THE ROAD RIGHT-OF-WAY. ALL FIRE HYDRANTS ARE TO BE LOCATED WITHIN THE ROAD RIGHT-OF-WAY. THERE MUST BE AT LEAST A ONE (1) FOOT SEPARATION BETWEEN BACK OF SIDEWALK (OR CURB IF NO
- SIDEWALK) AND THE LEADING EDGE OF ANY FIRE HYDRANT. 1. OVER EXCAVATION AND ADDITIONAL GRANULAR BACKFILL MAY BE REQUIRED IN HIGH GROUNDWATER AREAS WHICH ARE TO BE DETERMINED BY THE FIELD INSPECTOR.

 13. ALL MATERIAL PLACED AS FILL OR BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH SECTION 306 OF THE CURRENT EDITION OF ADA COUNTY HIGHWAY DISTRICT STANDARD SPECIFICATIONS.
- 4. ROADWAY CONSTRUCTION WILL MEET SPECIFIC DETAILS AND REQUIREMENTS OF THE FOLLOWING IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION STANDARD DRAWINGS: (CURRENT EDITION)

 1. STREET SECTION, ACHD SUPPLEMENTAL DRAWING NO. SD-801, AND SECTIONS AS SHOWN ON ROADWAY DETAIL SHEET.

 2. ASPHALT REPAIR FOR STREET CUTS. ISPWC DRAWINGS SD-301, ACHD SD-303, ACHD SD-806
- 3. 4.0' CONCRETE VALLEY GUTTER, ACHD SUPPLEMENTAL DRAWING NO. SD-708. 4. VERTICAL AND ROLLED CURB AND GUTTER, ACHD SUPPLEMENTAL DRAWNG NO. SD-701 AND SD-702.

6. DETECTABLE WARNING TRUNCATED DOMES TO BE CAST INTO THE CONCRETE (ADHESIVE MATS NOT ALLOWED) AND

COLORED TRAFFIC YELLOW, DRAWING NO. SD-712. SIDEWALKS, ACHD SUPPLEMENTAL DRAWING NO. SD-709.

5. HANDICAP PEDESTRIAN RAMP, DRAWING NO. SD-712A, SD-712G AND SD-712C

- D. MONITORING WELLS PER ACHD STORMWATER DESIGN GUIDELINES DETAIL 7.

 O. SAND AND GREASE TRAP PER ACHD STORMWATER DESIGN GUIDELINES BMP-01.
- . DRAINAGE POND PER ACHD STORMWATER DESIGN GUIDELINES BMP-02 15. PRIOR TO PLACEMENT OF ANY PAVEMENT MARKINGS CONTACT ACHD INSPECTION FOR VERIFICATION OF COMPLIANCE WITH POLICY 16. FOR SUBDIVISION SIGN INSTALLATION; OUTSIDE INSTALLERS MUST BE BONDED WITH ACHD AND OBTAIN A NO-CHARGE

<u>∧ WATER</u>

- 1. THE WATER SYSTEM SHALL BE CONSTRUCTED TO CONFORM WITH STANDARDS SET FORTH IN THE "IDAHO RULES FOR PUBLIC DRINKING WATER SYSTEMS", THE IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPWC LATEST EDITION) AND CITY OF KUNA
- 2. CONTRACTOR SHALL NOTIFY OWNER'S ENGINEER AND KUNA CITY 48 HOURS BEFORE INITIAL CONSTRUCTION BEGINS AND SHALL ALSO REQUEST KUNA CITY INSPECTION OF WATER LINES AND APPURTENANCES TWENTY-FOUR (24) HOURS IN ADVANCE OF BACKFILLING.
- 3. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT THE ENTRY OF ANIMALS, DIRT AND OTHER FOREIGN MATTER INTO PIPES AND
- SHALL NOT LEAVE ANY OPEN PIPE END AT ANY TIME WHEN ABSENT FROM THE WORK SITE
- 4. ALL WATER MAINS SHALL BE PVC CONFORMING TO THE PROVISIONS OF AWWA C-900 CLASS 150 OR CLASS 150 CEMENT MORTAR LINED DUCTILE IRON CONFORMING TO AWWA C-151. ALL FITTINGS SHALL BE DUCTILE IRON CONFORMING TO AWWA C-110. 5. MINIMUM DEPTH FOR ALL WATER MAINS SHALL BE FOUR (4) FEET FROM FINISHED GRADE TO TOP OF PIPE.
- 6. AFTER INSTALLATION OF WATER MAINS, TRENCHES SHALL BE COMPACTED TO 95% OF MAXIMUM PROCTOR DENSITY TO PREVENT
- 7. ALL MAIN LINE WATER VALVES SHALL BE RESILIENT-SEATED GATE VALVES CONFORMING TO AWWA C-509. ALL WATER VALVES SHALL BE FURNISHED WITH A STANDARD CAST IRON 5-1/4 INCH DIAMETER 3-PIECE ADJUSTABLE VALVE BOX. THE CAST IRON COVER SHALL BE DESIGNED TO SLIP INSIDE THE TOP BELL AND SHALL BE MARKED WITH THE WORD "WATER" AS AN INTEGRAL PART

OF THE COVER. CONCRETE COLLAR SHALL BE REQUIRED WHEN LOCATED IN PAVEMENT.

- 8. ALL TEES, PLUGS, BENDS, AND OTHER LOCATIONS WHERE UNBALANCED FORCES EXIST, SHALL BE SECURED AND ANCHORED BY SUITABLE THRUST BLOCKING AS SHOWN ON SD-403 (ISPWC)
- 9. NO. 12 DIRECT BURIAL TRACER WRE SHALL BE PLACED AND TAPED AT THE CROWN OF WATER MAINS AND SERVICE LINES. THE TRACER WRE SHALL BE LOOPED FROM THE MAIN LINE TO EACH SERVICE VAULT ALONG THE SERVICE PIPE AND BACK TO THE MAIN LINE. THE TRACER WIRE SHALL BE ACCESSIBLE AT ALL VALVE BOXES AND SHALL BE EXTENDED ALONG THE OUTSIDE OF THE LOWER PORTION OF THE VALVE BOX AND ALONG THE INSIDE OF THE UPPER PORTION. WIRE SHALL BE TAPED TO GATE VALVES SO IT IS ACCESSIBLE FROM ABOVE BUT DOES NOT INTERFERE WITH VALVE OPERATION. AN ELECTRICAL CONTINUITY TEST SHALL BE CONDUCTED BEFORE PAVING TO PROVE THE INTEGRITY OF THE TRACER WIRE.
- 10.ALL MAINS SHALL BE LEAK-TESTED, FLUSHED AND DISINFECTED AFTER INSTALLATION OF ALL UTILITIES, BEFORE PAVING AND BEFORE CONNECTING TO THE SYSTEM. THE DISTRIBUTION SYSTEM SHALL BE PRESSURE TESTED TO 150 PSI MINIMUM OR IN ACCORDANCE WITH SECTION 401 OF THE ISPWC. IT SHALL BE DISINFECTED ACCORDING TO SECTION 401 (ISPWC) AND THEN FLUSHED. THE DISINFECTION AND FINAL FLUSHING PROCEDURE SHALL BE TESTED TO DETERMINE IF THE APPROPRIATE MINIMUM CHLORINE (CL) RESIDUALS HAVE BEEN MET. EACH METER SETTER SHALL BE OPENED TO VERIFY THAT THE CORPORATION STOP IS OPEN ÀND THE SERVICE IS OPERABLE PRIOR TO PAVING. EACH VALVE AND HYDRANT SHALL BE OPERATED TO ENSURE IT IS FUNCTIONAL PRIOR TO PAVING. A REPRESENTATIVE OF THE CITY MUST OBSERVE THE TESTING.
- 11. ALL INSTALLED WATER LINES SHALL BE DISINFECTED IN ACCORDANCE WITH DIVISION 400, OF THE ISPWC SPECIFICATIONS AND PASS THE REQUIRED BACTERIOLOGICAL TEST PRIOR TO BEING PUT INTO SERVICE. THE CONTRACTOR SHALL FURNISH KUNA CITY WITH REPORTS FROM A CERTIFIED LABORATORY OF THE BACTERIA SAMPLES SHOWING THAT THE WATER LINES HAVE PASSED BACTERIA SAFETY REQUIREMENTS. A REPRESENTATIVE OF THE CITY MUST OBSERVE THE TESTING.
- 12. THE CONTRACTOR MAY PRESSURE TEST ALL WATER LINES AFTER DISINFECTION AND FLUSHING BUT PRIOR TO INSTALLATION OF OTHER UTILITIES. AFTER ALL UTILITIES ARE INSTALLED AND PRIOR TO PAVING THE CONTRACTOR SHALL PERFORM A FINAL PRESSURE TEST WITH KUNA CITY PERSONNEL IN ATTENDANCE. THE CONTRACTOR SHALL FURNISH ALL PERSONNEL AND EQUIPMENT NECESSARY TO
- 13.CONTRACTOR IS TO FIELD VERIFY ALL VALVE BOX LID ELEVATIONS TO ENSURE THAT SAID LID ELEVATIONS MATCH FINAL STREET GRADE, AND ALL METER LID ELEVATIONS TO MATCH SIDEWALK ELEVATIONS.
- 14. VALVES, FLANGED OR M.J., SHALL BE LOCATED IN THE STREET UNLESS EXPLICITLY APPROVED BY THE CITY ENGINEER. ALL GATE VALVES SHALL BE SET AS CLOSE (FLANGE CONNECTED) AS POSSIBLE TO MAIN LINE FITTINGS. ALL WATER METERS AND FIRE HYDRANTS ARE TO BE LOCATED OUT OF THE ROAD RIGHT-OF-WAY. THERE MUST BE AT LEAST A ONE (1) FOOT SEPARATION BETWEEN ANY BACK OF SIDEWALK (OR CURB IF NO SIDEWALK) AND THE LEADING EDGE OF ANY FIRE HYDRANT.
- 15. WATER SERVICE LINES SHALL BE PLACED IN A 4 INCH DIAMETER SCHEDULE 80 WATER CLASS PIPE WHEREVER THE SERVICE LINE CROSSES A STREET DRAINAGE SEEPAGE BED.
- 16.THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS WATER SERVICE TO ALL EXISTING WATER USERS AFFECTED
- 17.THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MARKING ALL EXISTING SERVICE CONNECTIONS WITH AN 8-FOOT 2 X 4 BOARD PAINTED BLUE.
- 18.THE PAVING CONTRACTOR SHALL SET WATER VALVE RISERS IN CONCRETE COLLARS PER ISPWC STANDARD DRAWING SD-406.
- 19.ALL FIRE HYDRANTS SHALL BE DRY BARREL CONFORMING TO AWWA C-502 AND PROVIDED AND INSTALLED PER ISPWC SECTION 403 AND ISPWC DWG SD-404. HYDRANTS SHALL HAVE A FIVE (5) FOOT SETTING MINIMUM; 150 PSI WORKING PRESSURE; ONE 4-1/2 INCH DIAMETER NATIONAL STANDARD PUMPER NOZZLE; AND TWO 2-1/2 INCH DIAMETER NATIONAL STANDARD THREAD FIRE HOSE NOZZLES. THE VALVE OPERATOR SHALL OPEN COUNTER CLOCKWISE. THE HYDRANT SHALL BE EQUIPPED WITH DRAIN THAT OPENS WHEN HYDRANT IS CLOSED; AND A SIX (6) INCH FLANGED BY MECHANICAL JOINT RESILIENT-SEAT GATE VALVE ATTACHED DIRECTLY TO THE MAIN LINE TEE. FIRE HYDRANTS SHALL BE A CLOW MEDALLION, WATEROUS PACER 100, OR MUELLER A423. NO OTHERS WILL BE ACCEPTED. MAXIMUM HYDRANT SPACING SHALL BE 450 FEET. HYDRANT LOCATIONS SHALL BE APPROVED IN WRITING BY HE KUNA RURAL FIRE DEPARTMENT AND SUBMITTED WITH THE CONSTRUCTION PLANS FOR FINAL REVIEW AND APPROVAL BY THE
- 20. INDIVIDUAL 1-INCH WATER SERVICES SHALL BE INSTALLED FOR EACH CONNECTION FROM A SINGLE OR DUAL METER VAULT. THE 1-INCH WATER SERVICE FOR EACH CONNECTION SHALL BE EXTENDED A MINIMUM OF 10-FEET ON THE HOUSE SIDE OF THE METER, OR AS REQUIRED TO EXTEND PAST OTHER UTILITIES LOCATED WITHIN THE 10-FOOT UTILITY EASEMENT. WATER METERS SHALL BE furnished and installed by the city. Except as noted below, service details shall be as noted in ispwc dwg SD— SPECIFICALLY EACH SERVICE LEG SHALL BE PROVIDED WITH 18—INCH TALL %—INCH COPPER METER SETTER; CURB STOP, LOCKABLE SHUTOFF VALVE AND CHECK VALVE; AND 20—INCH DIAMETER BY 36—INCH TALL INSULATED METER BOX AS MANUFACTURED BY "MID—STATES PLASTICS, INC.", OR APPROVED EQUAL; AND A CAST IRON FRAME AND COVER TAPPED WITH A 1—INCH DIAMETER RECESSED HOLE FOR THE CITY AUTOREAD METER SENSOR AS APPROVED BY THE CITY. WHERE PRACTICAL METER BOX SHALL BE LOCATED ON THE NORTH OR EAST SIDE OF THE PROPERTY, OR IN CASE OF DUAL WATER SERVICE, ON THE NORTH OR EAST SIDE OF THE COMMON PROPERTY LOT LINE. THE CENTERLINE OF THE METER SETTER SHALL BE LOCATED 18—INCHES BELOW FINISH GRADE.
- METERS SHALL BE PLACED 18-INCHES INSIDE THE PROPERTY LINE AND 18-INCHES AWAY FROM THE SIDE LOT LINE. 21.MULTIPLE TAPS IN THE SAME PIPE JOINT SHALL BE STAGGERED AND SHALL BE SEPARATED BY A MINIMUM OF ONE FOOT.
- 22. ALL PIPE, MAINS, AND SERVICES SHALL BE BEDDED WITH TYPE 1 OR TYPE III BEDDING. IN AREAS OF ROCK EXCAVATION BEDDING SHALL BE SIX (6) INCHES BELOW THE BOTTOM OF PIPE.

STREET & SEWER INDEX MAP

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2012 SEWER SPECIFICATIONS AND STANDARD DRAWINGS OF THE IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (I.S.P.W.C.), KUNA CITY PUBLIC WORKS DEPARTMENT AND/OR THE ADA COUNTY HIGHWAY
- 2. FINAL APPROVAL AND ACCEPTANCE OF ALL SEWER CONSTRUCTION WILL BE BY THE CITY OF KUNA.
- 3. MANHOLES 4 FEET OR GREATER IN DEPTH, SHALL BE TYPE "A" IN ACCORDANCE WITH I.S.P.W.C. STANDARD DRAWING SD 501. MANHOLES LESS THAN 4 FEET IN DEPTH SHALL BE CONSTRUCTED IN ACCORDANCE WITH I.S.P.W.C. STANDARD DRAWING SD 505.
- 4. SEWER PIPE 4" TO 15" WITH COVER OF GREATER THAN 3 FEET, SHALL BE BELL AND SPIGOT, POLYVINYL CHLORIDE (PVC), SDR ASTM D-3034 AS SET FORTH BY THE KUNA CITY PUBLIC WORKS DEPARTMENT. SEWER PIPE WITH LESS THAN 3 FEET OF COVER SHALL BE DUCTILE IRON CONFORMING TO ANSI A-21.51 OR AWWA C-151. A RUBBER RING IS TO BE INSTALLED WHERE THE PIPE IS IN CONTACT WITH THE MANHOLE BASE AND/OR ITS CHANNEL, IN ORDER TO ENSURE A WATERTIGHT SEAL. 18" TO 27" PVC PIPE AND LARGER SHALL BE
- 5. SEWER INSPECTIONS WILL BE BY ENGINEER OF RECORD AND KUNA CITY, AND THEIR DECISIONS SHOULD BE CONSIDERED AS FINAL. SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER. 6. STUB OUTS FOR SERVICE LINES SHALL BE MARKED IN ACCORDANCE WITH THE SPECIFICATIONS AND INSPECTED BY THE CITY. THE CONTRACTOR IS TO NOTIFY THE ENGINEER WHEN THIS IS ACCOMPLISHED SO THAT ANY DESTRUCTION OF SAME IS NOT BACK CHARGED TO
- 7. PRIOR TO FINAL ACCEPTANCE, AFTER ALL UTILITIES ARE IN AND PRIOR TO PAVING, AN AIR TEST SHALL BE CONDUCTED. THE CONTRACTOR SHALL CONTACT ENGINEER OF RECORD AND THE CITY OF KUNA A MINIMUM OF 24 HOURS PRIOR TO TESTING.
- 8. ALL MANHOLES SHALL BE CONSTRUCTED SO AS TO BE WATER TIGHT AND WITH THE TOP OF CONE LOCATED WITHIN ONE (1) FOOT OF THE FINISHED GRADE. THE SEWER CONTRACTOR SHALL SUPPLY ALL LID ASSEMBLIES AND THE REQUIRED NUMBER OF RISER AND GRADE THE SEWER CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF THE TOP OF THE EXISTING AND CONSTRUCTED MANHOLE CONES TO ASSURE THAT ALL RING ELEVATIONS MATCH FINAL STREET GRADES. MANHOLES SHALL HAVE 18 INCH MAXIMUM CLEARANCE BETWEEN THE RIM AND TOP OF CONE. EACH OF THE GRADE RINGS SHALL BE SET IN A BED OF NON-SHRINK GROUT OR MORTAR AND TROWEL SMOOTH WITH THE INSIDE OF THE MANHOLE. THE NON-SHRINK GROUT SHALL ALSO BE APPLIED BETWEEN METAL FRAME AND GRADE RINGS. STACKING OF THE GRADE RINGS AND FRAME WITHOUT NON-SHRINK GROUT OR MORTAR WILL NOT BE ALLOWED.
-). THE PAVING CONTRACTOR SHALL SET THE GRADE RINGS AND POUR THE CONCRETE COLLARS PER STANDARD DRAWING NO. SD 508. THE PAVING CONTRACTOR SHALL CONTACT ADA COUNTY HIGHWAY DISTRICT 24 HOURS PRIOR TO POURING CONCRETE COLLARS.
- 10. THE CONTRACTOR SHALL NOTIFY THE KUNA CITY PUBLIC WORKS DEPARTMENT 48 HOURS PRIOR TO CONSTRUCTION AT (208) 11. SERVICE STUB OUTS WILL BE TO THE POINTS SHOWN IN THE DRAWINGS OR AS MARKED BY THE ENGINEER IN THE FIELD. SERVICE LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DWG. NO. SD-511A. THOSE SEWER SERVICE STUB OUTS BEGINNING AT A MANHOLE ARE DISCOURAGED BUT WHERE UNAVOIDABLE WILL HAVE THE TOP OF THE FOUR INCH SERVICE LINE PIPE MATCH THE TOP OF THE MAINLINE PIPE. THE SEWER SERVICE MARKER SHALL BE IN PLACE FOR THE FINAL INSPECTION.
- 12. PLACE SEWER SERVICE STUB OUT LINES IN A SIX (6) INCH DIAMETER WATER CLASS PIPE WHEREVER THE SERVICE LINE CROSSES A STORMWATER DISPOSAL FACILITY (I.E., SEEPAGE BEDS, DRAINAGE SWALES).
- 13. THE HORIZONTAL SEPARATION OF THE WATER AND SEWER MAINS SHALL BE A MINIMUM OF TEN (10) FEET.
- 14. GROUNDWATER LEVELS SHALL BE MAINTAINED BELOW THE BOTTOM OF THE TRENCH DURING THE PIPE LAYING AND PIPE JOINING 15. THE TRENCH BACK FILL ABOVE THE PIPE ZONE WILL BE INSPECTED BY THE ADA COUNTY HIGHWAY DISTRICT IN ACCORDANCE WITH THE LATEST EDITION OF THE "CONSTRUCTION QUALITY ASSURANCE MANUAL." COMPACTION TESTS ARE REQUIRED IN THE BACK FILL ABOVE THE PIPE ZONE, WITHIN PUBLIC RIGHT-OF-WAY, ACCORDING TO ADA COUNTY HIGHWAY DISTRICT REQUIREMENTS AND THE RESULTS SHALL BE
- SUBMITTED TO KUNA CITY AND ADA COUNTY HIGHWAY DISTRICT PRIOR TO FINAL ACCEPTANCE.
- 16. ALL STATIONING RELATES TO THE GRAVITY SEWER CENTERLINE. 17. SEWER SERVICE LINES SHALL BE INSTALLED PRIOR TO STREET IMPROVEMENTS.
- 18. CITY OF KUNA WILL PROVIDE PERIODIC INSPECTIONS FOR AN EIGHT—HOUR DAY, FROM 8:00 A.M. TO 5:00 P.M., FOR A FORTY—HOUR WEEK. THE CONTRACTOR SHALL REIMBURSE THE CITY AT RATES ESTABLISHED BY THE CITY FOR INSPECTION IN EXCESS OF THE NORMAL WORK WEEK, INCLUDING LEGAL HOLIDAYS. OVERTIME INSPECTION RATES AND A LIST OF LEGAL HOLIDAYS CAN BE OBTAINED FROM THE
- 19. WHERE IT IS NECESSARY FOR THE SEWER OR NON POTABLE WATER MAIN AND WATER LINE TO CROSS EACH OTHER AND THE SEWER OR NON POTABLE LINE IS LESS THAN 18" BELOW OR ABOVE THE WATER MAIN, THE SEWER OR NON POTABLE WATER LINE CROSSING SHALL BE PVC PRESSURE PIPE CONFORMING TO AWWA C-900 OR ASTM D2241 STANDARDS WITH WATERTIGHT JOINTS, OR EQUAL CONSTRUCTION, FOR A DISTANCE OF 10' ON BOTH SIDES OF THE WATER LINE IN ACCORDANCE WITH SECTION 550.06 OF THE IDAHO PUBLIC DRINKING WATER STANDARDS. ONE FULL LENGTH OF BOTH WATER MAIN AND SEWER OR NON POTABLE WATER LINE SHALL BE CENTERED OVER THE CROSSING POINT SO THAT ALL JOINTS WILL BE AS FAR FROM THE CROSSING AS POSSIBLE.
- 20. SEWER CONSTRUCTION WILL MEET SPECIFIC DETAILS AND REQUIREMENTS OF THE FOLLOWING IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION AND THE ADA COUNTY HIGHWAY DISTRICT STANDARD DRAWINGS:
 - . STANDARD MANHOLE TYPE A, DRAWING NO. SD-501. 2. STANDARD SHALLOW MANHOLE, DRAWING NO. SD-505. 3. MANHOLE COLLAR DETAIL, DRAWING NO. SD-508.

 - 5. STANDARD SEWER SERVICE LINE, DRAWING NO. SD-511-A. 6. SEWER SERVICE MARKER, DRAWING NO. SD-512.
- 21. THE CONTRACTOR SHALL LEAVE THE EXCAVATION FOR THE UPSTREAM END OF ALL SERVICE LINES OPEN FOR FIELD VERIFICATION OF THE INVERT ELEVATION BY THE ENGINEER INSPECTOR. THE CONTRACTOR SHALL NOT BACK FILL THE ENDS OF SERVICE LINES UNTIL HE HAS OBTAINED APPROVAL FROM THE INSPECTOR OR MADE OTHER ARRANGEMENTS FOR THE VERIFICATION OF SERVICE LINE INVERT
- 22. THE CONTRACTOR SHALL INSTALL A REMOVABLE PLUG DOWNSTREAM OF SSMH A1, BETWEEN SSMH A1 & SSMH-A. THE PLUG SHALL REMAIN IN PLACE DURING CONSTRUCTION UNTIL FINAL ACCEPTANCE OF THIS SEWER PROJECT.

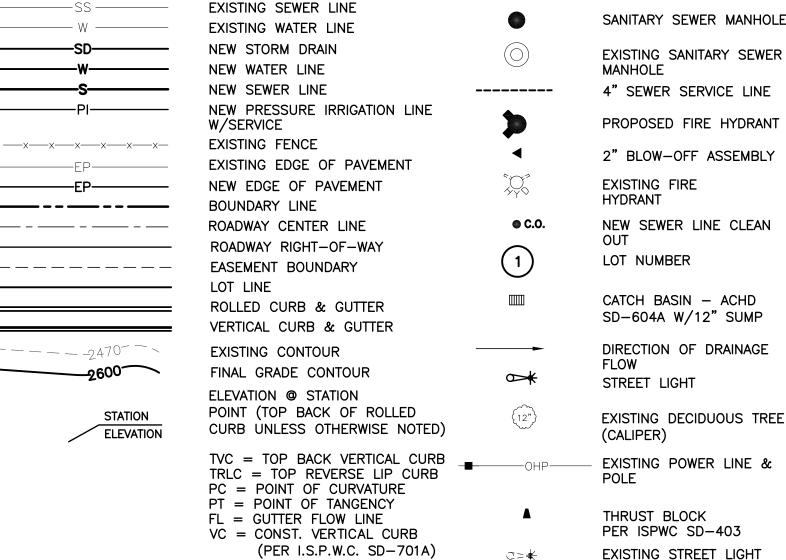
<u> A PRESSURE IRRIGATION</u>

LINE E 州 APPLEWATER

SHT 5.14 SHT 4.1

1. FOR PRESSURE IRRIGATION NOTES SEE SHEET 7.1

GENERAL LEGEND



(PER I.S.P.W.C. SD-701A) GB = GRADE BREAK GC = GRADE CHANGE

PEDESTRIAN RAMP PER. ISPWC SD-712C, OR AS SPECIFIED, W/ TRUNCATED DOMES TO BE CAST INTO THE CONCRETE (ADHESIVE MATS NOT ALLOWED) AND COLORED TRAFFIC YELLOW.

THE ENGINEER OF RECORD CERTIFIES THAT THE PLANS ARE PREPARED IN SUBSTANTIAL CONFORMANCE WITH THE ACHD POLICY MANUAL AND STANDARDS IN EFFECT AT THE TIME OF PREPARATION. THE ENGINEER ACKNOWLEDGES THAT ACHD ASSUMES NO LIABILITY FOR ERROR OR DEFICIENCIES IN THE DESIGN. ALL VARIANCES FROM ACHD POLICY SHALL BE APPROVED IN WRITING. THE FOLLOWING VARIANCES, LISTED BY DATE AND SHORT DESCRIPTION, WERE APPROVED FOR THE PROJECT: NONE.

Plans Are Accepted For Public Street Construction

By stamping and signing the improvement plans, the Registered Engineer ensures the District that the plans conform to all District policies and standards. Variances or waivers must be specifically and previously approved by the District in writing. Acceptance of the improvement plans by the District does not relieve the Registered Engineer of these responsibilities.

ADA COUNTY HIGHWAY DISTRICT

HUBBLE HOMES LLC 701 S. ALLEN ST. MERIDIAN, ID 83642 TEL: 208-695-2400

SANITARY SEWER MANHOLE

EXISTING SANITARY SEWER

4" SEWER SERVICE LINE

PROPOSED FIRE HYDRANT

MANHOLE

EXISTING FIRE

LOT NUMBER

STREET LIGHT

THRUST BLOCK

PER ISPWC SD-403

<u>DEVELOPER</u>

(CALIPER)

CATCH BASIN - ACHD

SD-604A W/12" SUMP

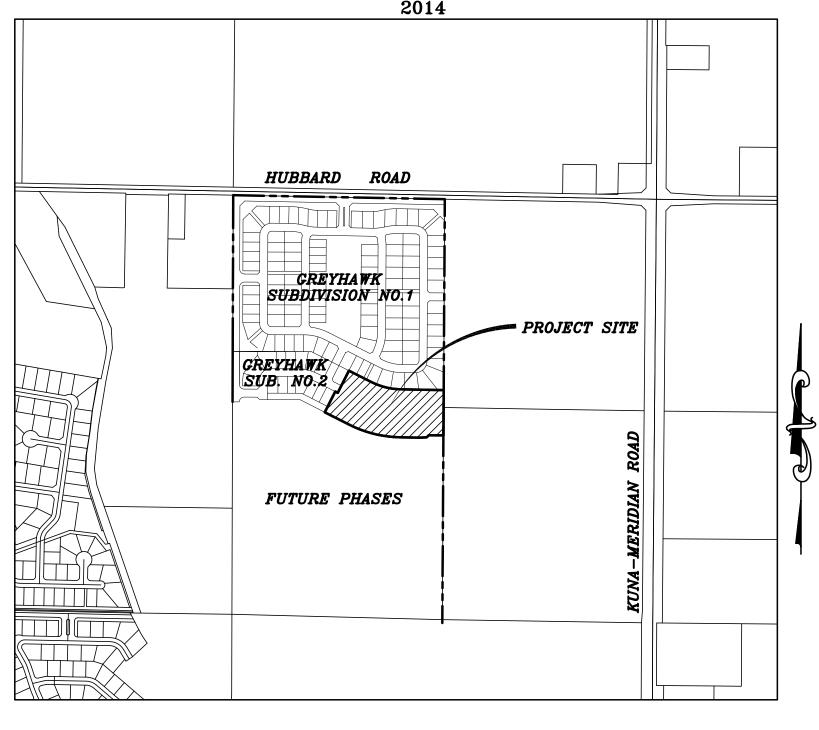
DIRECTION OF DRAINAGE

HYDRANT

OUT

DEVELOPMENT PLANS FOR GREYHAWK SUBDIVISION NO. 3

A PORTION OF THE WEST 1/2 OF THE NE 1/4 OF SECTION 13, TOWNSHIP 2 NORTH, RANGE 1 WEST, BOISE MERIDIAN, KUNA, ADA COUNTY, IDAHO



NAVD 1988 DATUM VICINITY MAP ' = 600

PLAN SHEET INDEX

DESCRIPTION

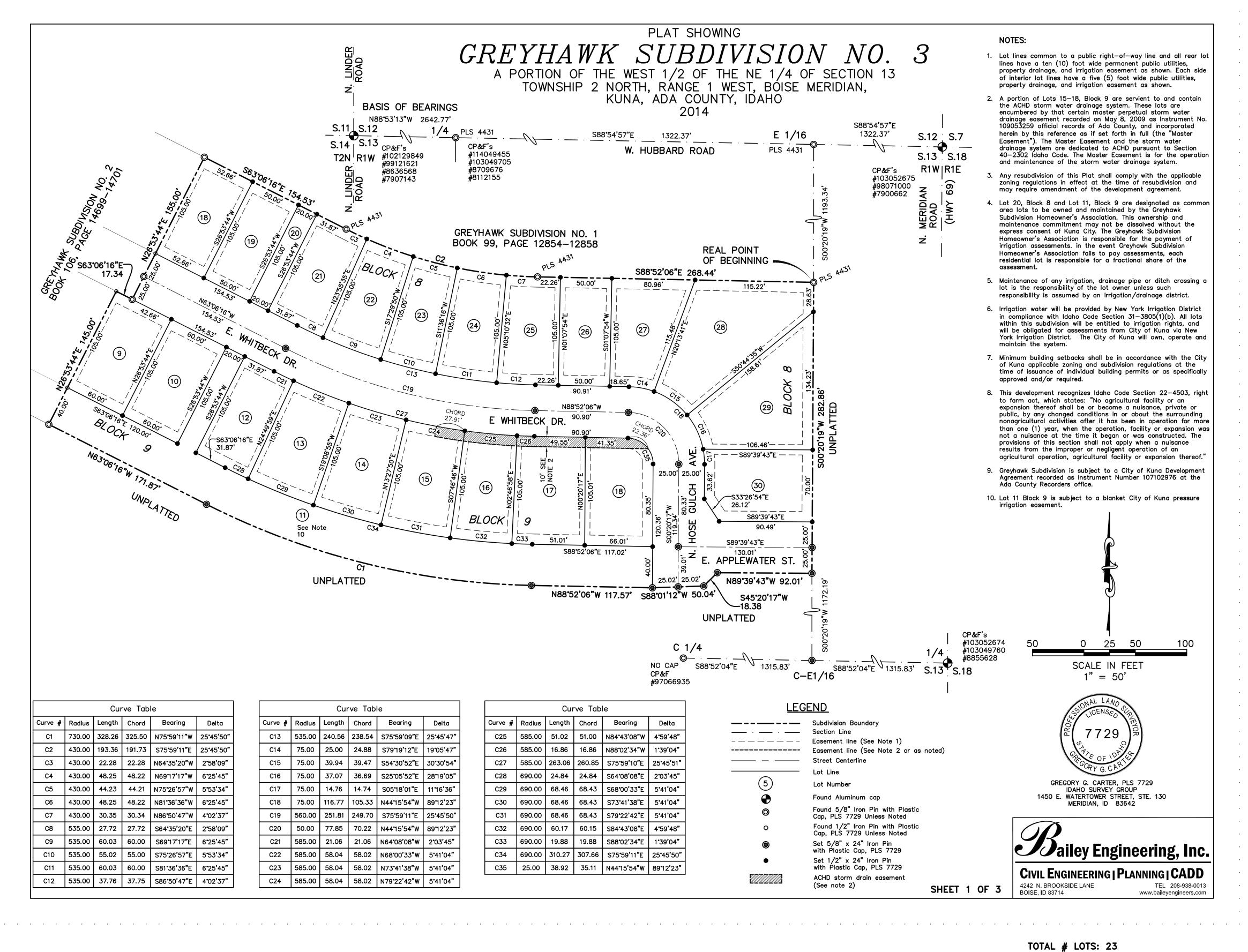
- COVER SHEET, INDEX, VICINITY MAP, & NOTES
- FINAL PLAT (2A, 2B & 2C)
- GRADING PLAN
- STREET PLAN & PROFILE AND DETAILS
- STREET AND DRAINAGE DETAILS
- WATER & SEWER PLAN & PROFILE
- PRESSURE & GRAVITY IRRIGATION, NOTES AND DETAILS
- MASTER UTILITY PLAN

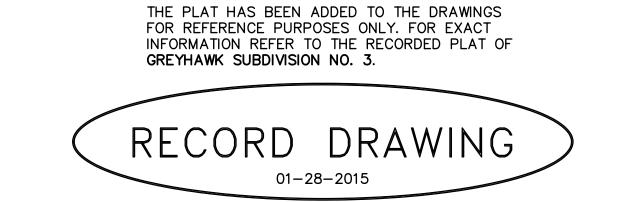
RECORD DRAWING 01-28-2015

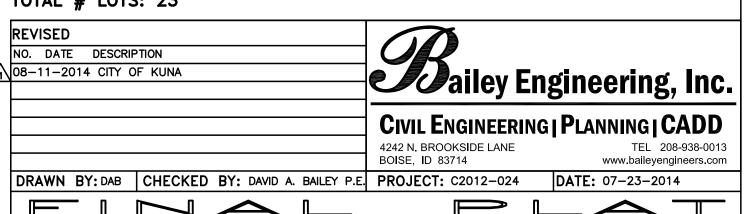




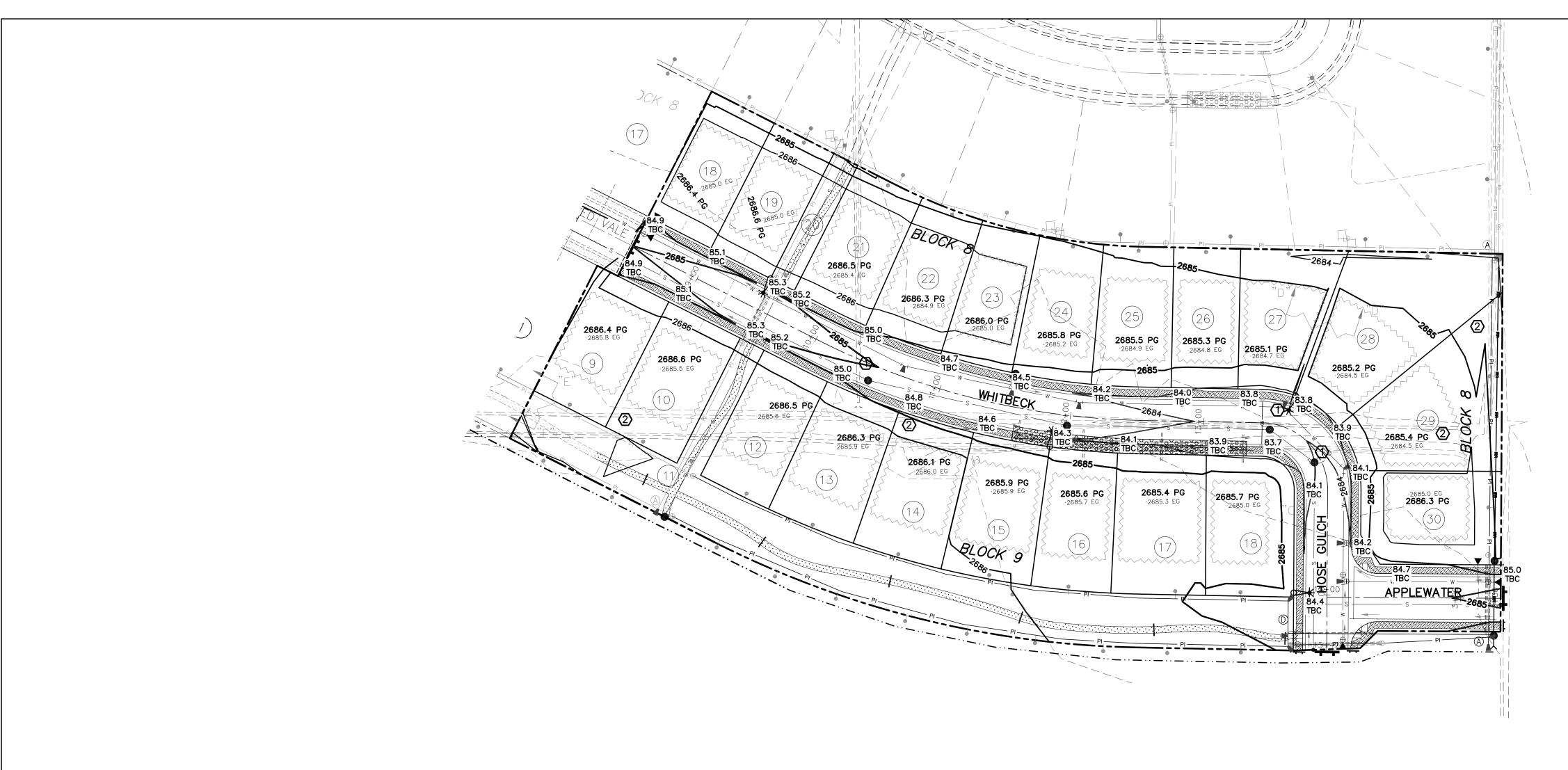
DRAWN BY: DAB CHECKED BY: DAVID A. BAILEY P.E. PROJECT: C2012-024 DATE: 07-23-2014 COYER SHEET GREYHAWK SUBDIVISION NO. HUBBLE HOMES LLC







GREYHAWK SUBDIVISION NO. 3 2 2.





. THE BUILDING ENVELOPES ARE BASED ON THE CITY OF KUNA SETBACKS APPROVED WITH THE GREYHAWK SUBDIVISION A GREYHAWK DEVELOPMENT LLC.

2. FOUNDATIONS MAY BE STEPPED A MAXIMUM OF 2 FEET. 3. REAR YARD SWALES SHOULD BE NO CLOSER THAN 10 FEET FROM THE

REVIEW OF AN ENGINEERED INDIVIDUAL LOT GRADING PLAN.

4. THE BUILDING CONTRACTOR SHALL REVIEW THE GEOTECHNICAL ENGINEERING

REPORT BY BOB ARNOLD DATED MAY 17, 2004. 5. FILLS LESS THAN 3' DEEP MUST BE COMPACTED TO 95% OF THE MAX. DRY

6. EACH BUILDER SHALL CONTINUE SWALE FOR APPLICABLE TYPICAL DRAINAGE LOTS WITH BACKYARD SWALES.

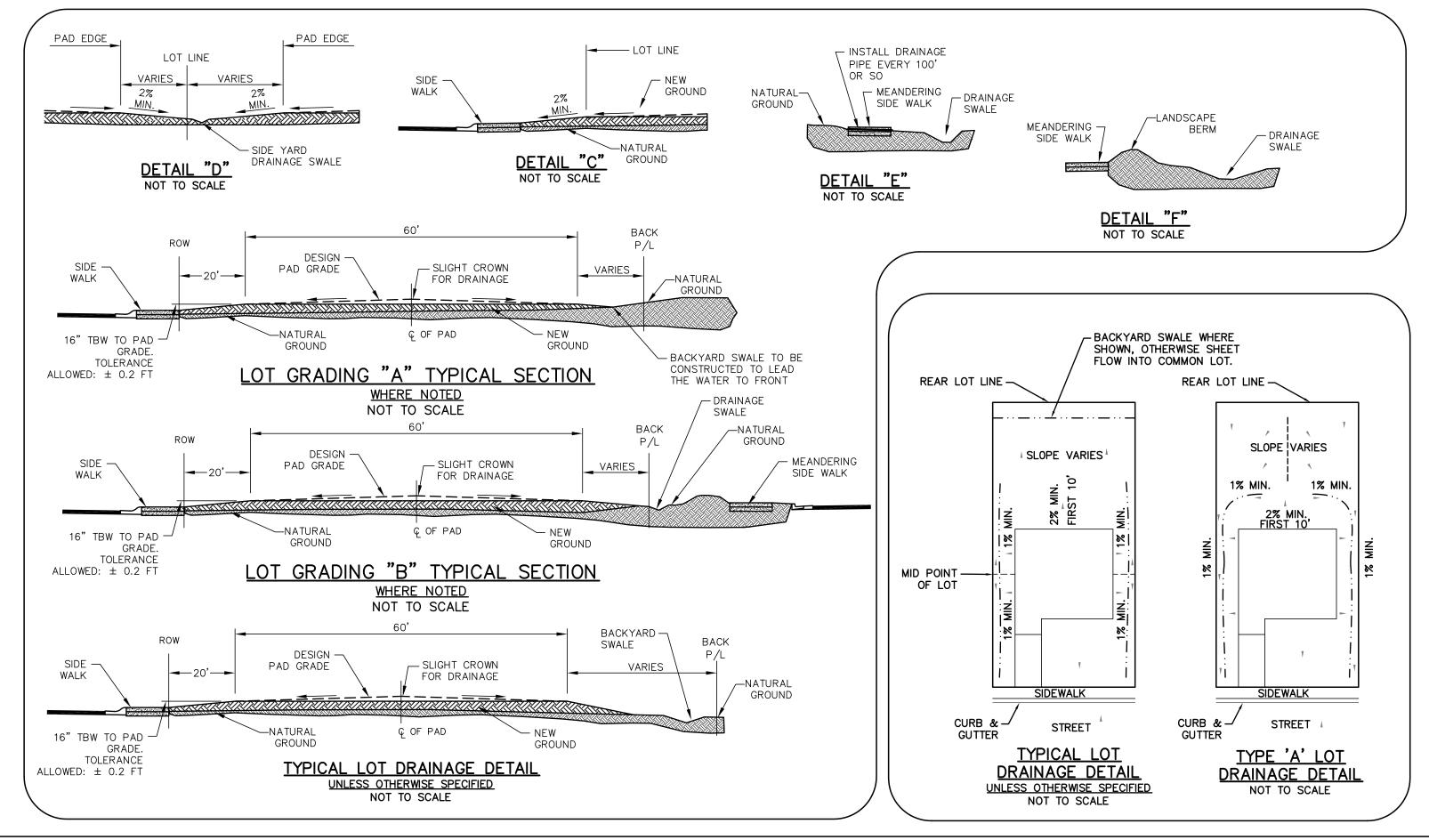
7. EXCEPTIONS TO THIS GRADING PLAN MAY BE APPROVED BY THE CITY OF KUNA BUILDING OFFICIAL AT ISSUANCE OF BUILDING PERMIT BASED UPON

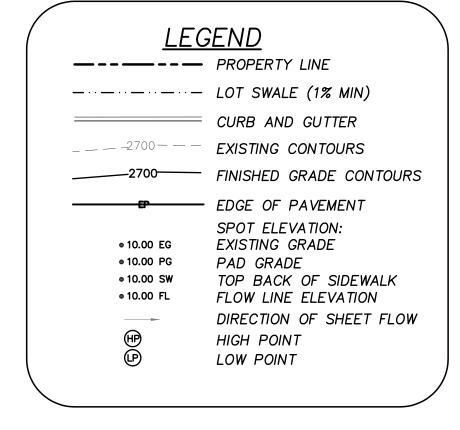
KEYNOTES

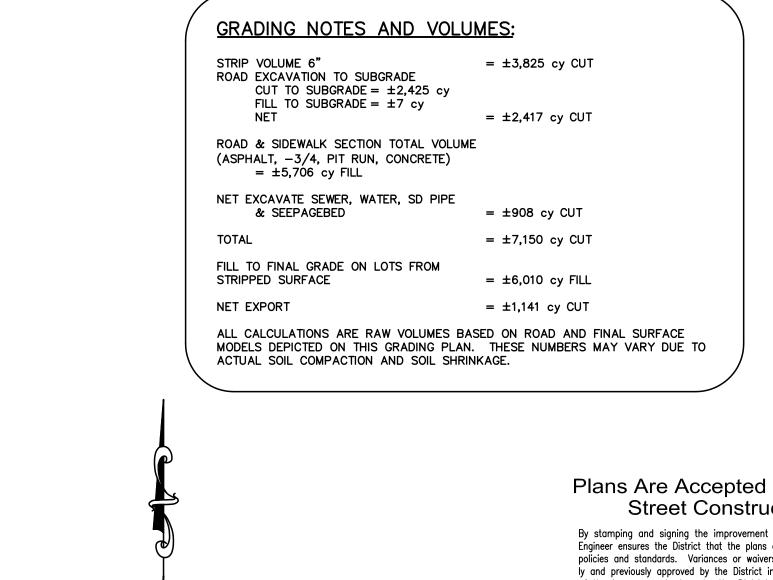
ABANDONED BUILDINGS, TEST PITS OR WATERWAYS LOCATED WITHIN CURRENT OR FUTURE RIGHT-OF-WAY SHALL BE RE-EXCAVATED TO NATIVE SOIL AND BACKFILLED WITH STRUCTURAL FILL PER ISPWC SPECIFICATIONS.

DENSITY PER ASTM D698 STANDARD PROCTOR.

ABANDONED BUILDINGS & WATERWAYS SHALL BE RE-EXCAVATED TO NATIVE SOIL AND BACKFILLED WITH STRUCTURAL FILL PER ISPWC SPECIFICATIONS







Plans Are Accepted For Public **Street Construction** By stamping and signing the improvement plans, the Registered Engineer ensures the District that the plans conform to all District policies and standards. Variances or waivers must be specifically and previously approved by the District in writing. Acceptance of the improvement plans by the District does not relieve the

ADA COUNTY HIGHWAY DISTRICT

Registered Engineer of these responsibilities.

RECORD DRAWING

0 25 50

SCALE IN FEET

1" = 50'

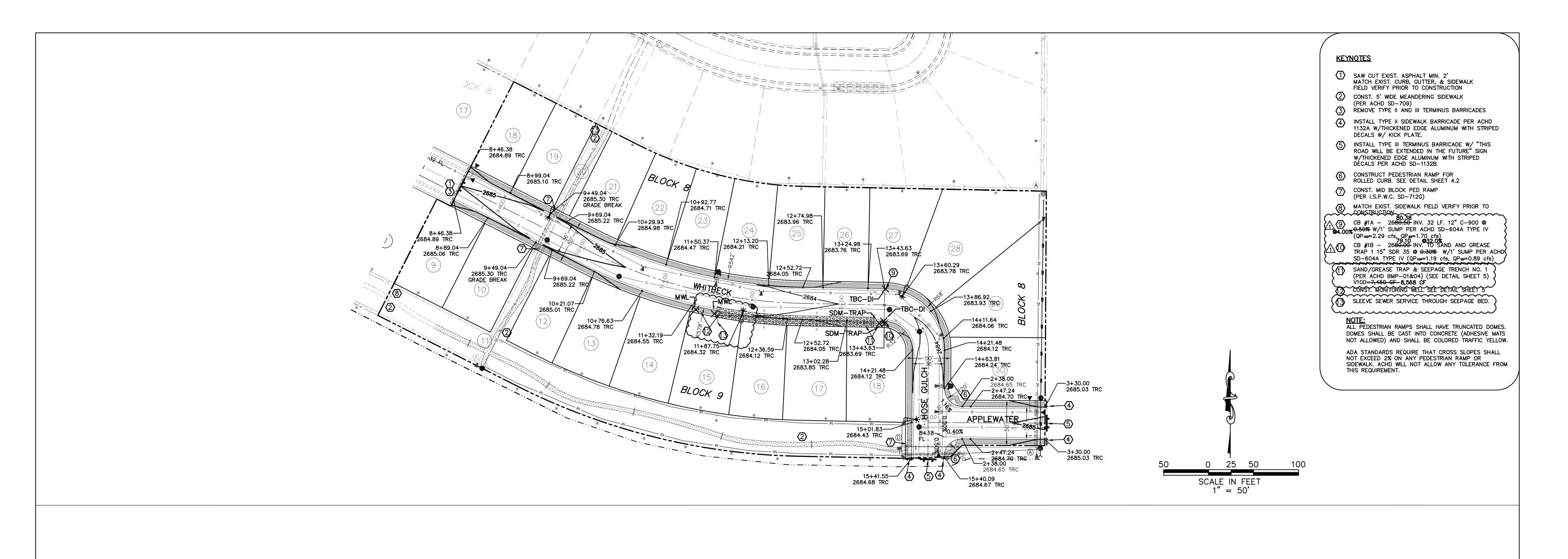


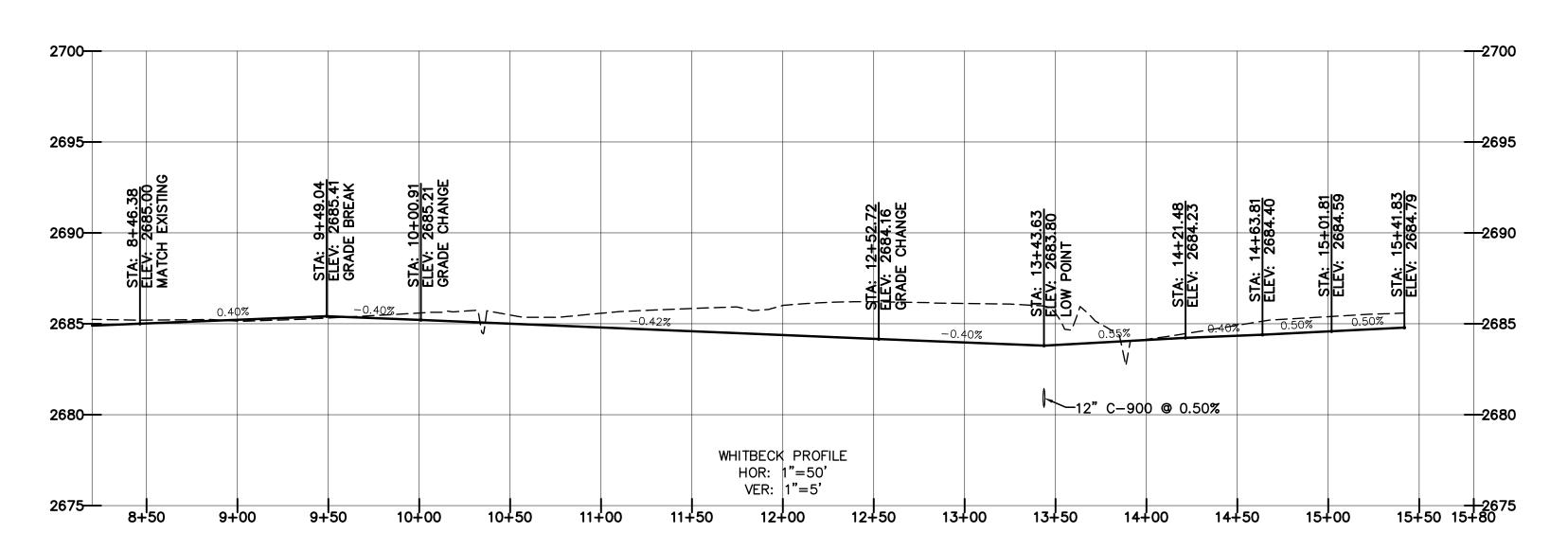
REVISED NO. DATE DESCRIPTION 108-11-2014 CITY OF KUNA CIVIL ENGINEERING | PLANNING | CADD 4242 N . BROOKSIDE LANE BOISE ID 83714 (208) 938-0013

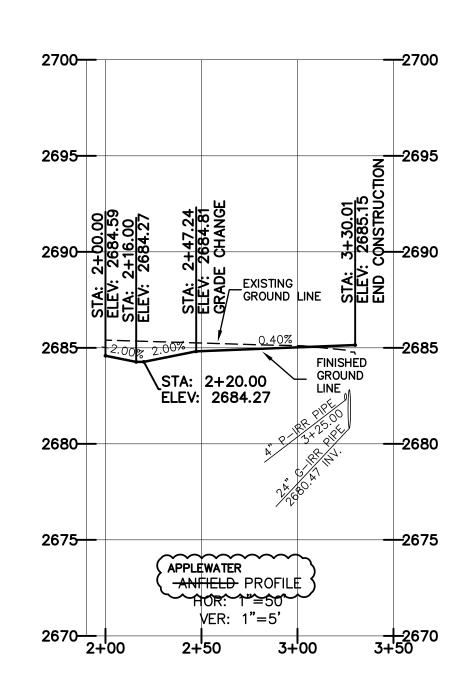
DRAWN BY: DAB | CHECKED BY: DAVID A. BAILEY P.E. | PROJECT NO. C2012-024 | DATE: 07-23-2014

Cailey Engineering, Inc.

GREYHAWK SUBDIVISION NO. HUBBLE HOMES







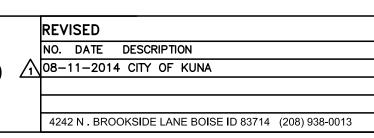
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ADA COUNTY HIGHWAY DISTRICT

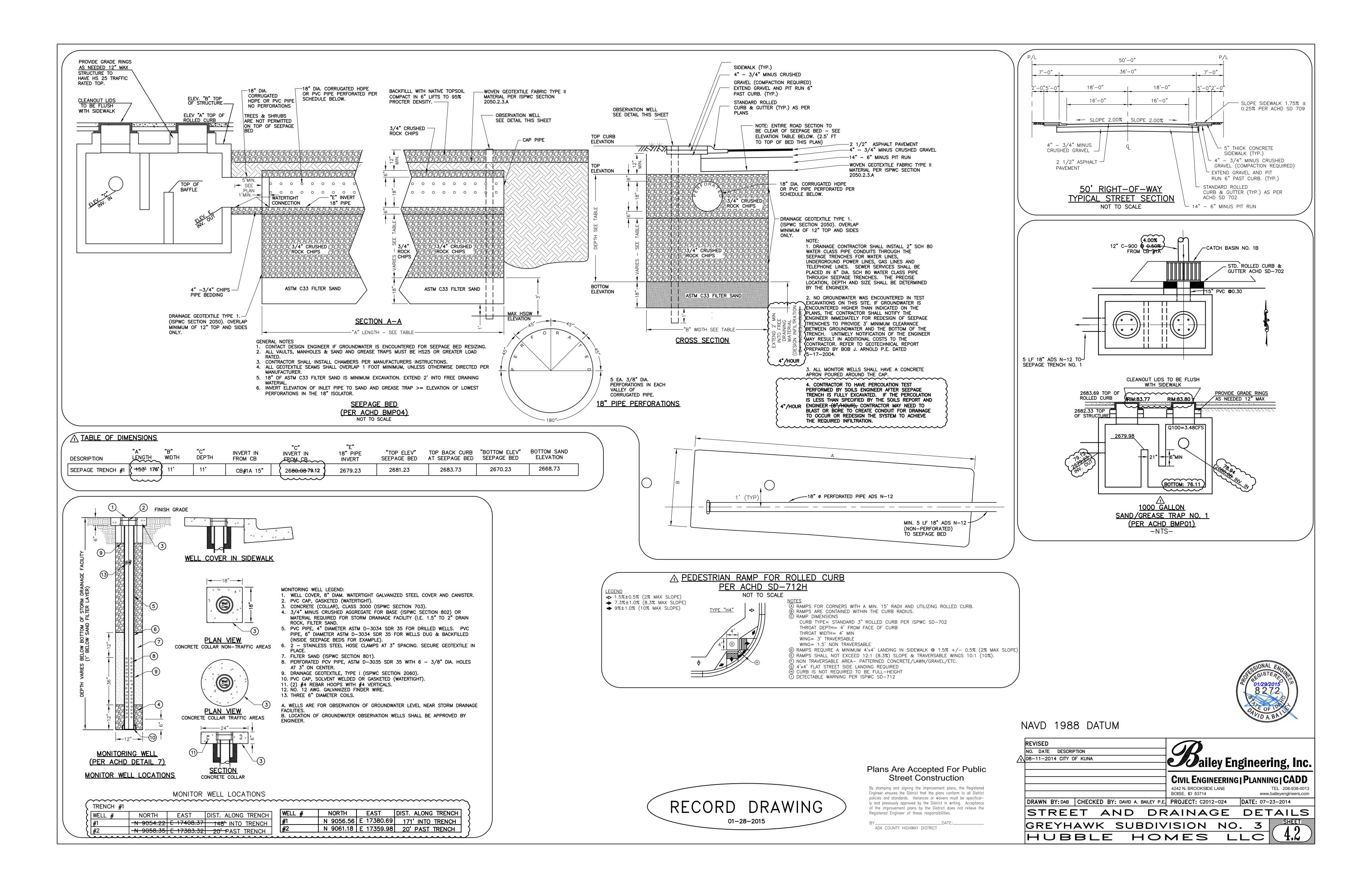


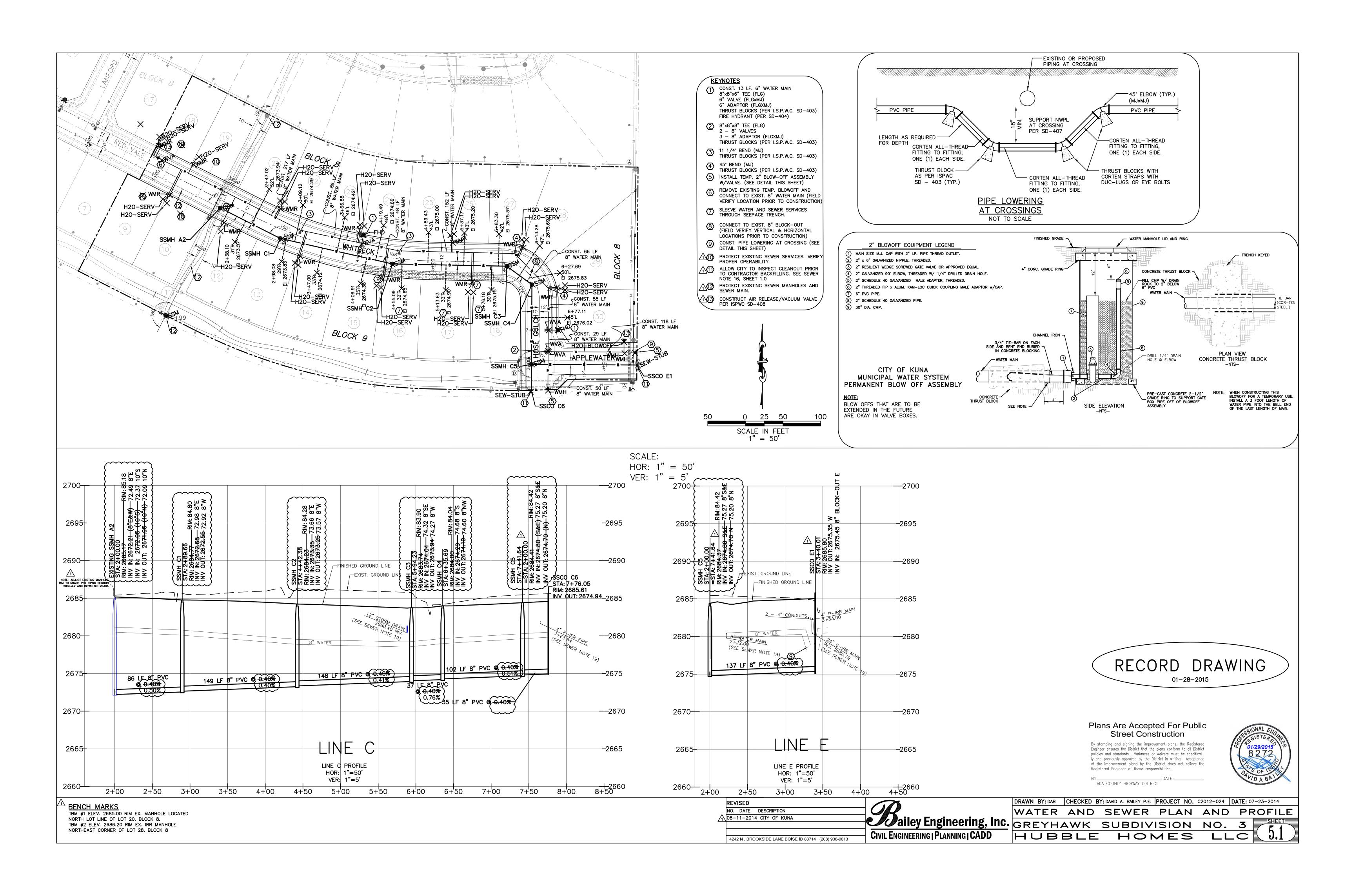
RECORD DRAWING 01-28-2015



CIVIL ENGINEERING | PLANNING | CADD

STREET PLAN AND PROJECTION NO. 3 DRAWN BY: DAB | CHECKED BY: DAVID A. BAILEY P.E. | PROJECT NO. C2012-024 | DATE: 07-23-2014 STREET PLAN AND PROFILE HUBBLE HOMES





GENERAL DESIGN AND CONSTRUCTION REQUIREMENTS FOR PRESSURE IRRIGATION FACILITIES ALL DESIGN AND CONSTRUCTION OF PRESSURE IRRIGATION DISTRIBUTION FACILITIES SHALL CONFORM TO THESE CITY

STATE LAWS, AND WHERE APPLICABLE, RELEVANT WATER AND SEWER DESIGN AND CONSTRUCTION STANDARDS. COPIES OF THE CITY OF KUNA REQUIREMENTS MAY BE OBTAINED FROM THE CITY ENGINEER. ALL NEW DEVELOPMENT WITHIN THE CITY OF KUNA SHALL INSTALL SEPARATE IRRIGATION SYSTEMS CONSISTING OF IRRIGATION MAINS AND INDIVIDUAL SERVICE CONNECTIONS TO EACH LOT. ANY CONNECTION TO THE MUNICIPAL WATER SYSTEM FOR IRRIGATION PURPOSES MUST BE APPROVED BY THE CITY ENGINEER, IS LIMITED TO LANDSCAPED COMMON AREAS ONLY, IS LIMITED IN TIME OF USE TO SHOULDER WATER SEASON ONLY AND SHALL BE THROUGH AN APPROVED SINGLE METERED CONNECTION EQUIPPED WITH A REDUCED PRESSURE BACKFLOW PREVENTION DEVICE. IF MULTIPLE CONNECTIONS ARE REQUIRED TO PROVIDE SERVICE TO MULTIPLE COMMON AREAS, EACH SHALL BE METERED AND EQUIPPED WITH A REDUCED PRESSURE BACKFLOW PREVENTION DEVICES SHALL CONFORM TO IDAPA 58.01.08.900.02, AWWA C5LL AND REQUIREMENTS OF THE IDAHO DEPARTMENT OF HEALTH AND WELFARE. DIVISION OF ENVIRONMENTAL QUALITY.

OF KUNA DESIGN AND CONSTRUCTION STANDARDS FOR PRESSURE IRRIGATION FACILITIES (REVISED MAY 14 2014), "IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION-LATEST EDITION", UNIFORM PLUMBING CODE, FEDERAL AND

A REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY WATTS REGULATOR SERIES 009, OR APPROVED EQUAL, SHALL BE INSTALLED FOR A CONNECTION TO THE POTABLE WATER SYSTEM. THIS INSTALLATION MAY BE USED FOR LANDSCAPING AND OTHER PUBLIC USE AREAS, BUT IS NOT APPROVED AS A DEVELOPMENT SYSTEM CONNECTION TO THE POTABLE WATER SYSTEM (SEE NOTE 2)

ALL WATER RIGHTS SHALL REMAIN WITH THE LAND AND BE DEDICATED FOR USE BY THE CITY PRESSURE IRRIGATION SYSTEM. THE DEVELOPER SHALL FURNISH THE CITY A LETTER ADDRESSED TO THE APPROPRIATE IRRIGATION DISTRICT REQUESTING THAT IRRIGATION RIGHTS FOR THE DEVELOPER'S BE POOLED AS DEFINED IN I.S.C. 50--1805A TO THE BENEFIT OF THE CITY OF KUNA ALONG WITH THE FINAL PLAT APPLICATION.

ALL RESIDENTIAL DEVELOPMENTS, AND ANY COMMERCIAL DEVELOPMENTS AS DIRECTED BY THE CITY ENGINEER, SHALL PROVIDE A PERIMETER DISTRIBUTION LOOP, ADJACENT TO THE DEVELOPMENT BOUNDARIES. SET IN A TEN FOOT WIDE EASEMENT (OR RIGHT--OF--WAY IF AVAILABLE), ACCORDING TO THE FOLLOWING SCHEDULE: A) TEN LOTS OR LESS -- MAY BE WAIVED AT THE DISCRETION OF THE CITY ENGINEER; B) TWENTY--FIVE LOTS OR LESS -- 4 INCH DIAMETER; C)

ONE HUNDRED LOTS OR LESS -- 8 INCH DIAMETER; D) TWO HUNDRED LOTS OR LESS -- 8 INCH DIAMETER; E) MORE THAN TWO HUNDRED LOTS -- MULTIPLE LOOPS AS DIRECTED BY THE CITY ENGINEER. INTERNAL DISTRIBUTION MAINS MUST BE LOOPED, EXCEPT FOR END LATERALS WHICH SERVICE 10 HOMES OR LESS. A MINIMUM OF two MAIN LINE CONNECTIONS SHALL BE PROVIDED FOR ALL SUBDIVISIONS OVER 25 LOTS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. MINIMUM MAIN LINE SIZE OF THE CONNECTION SHALL BE ONE PIPE SIZE LARGER THAN THE SMALLER CONNECTED DISTRIBUTION MAIN, UNLESS APPROVED OTHERWISE BY THE CITY

IRRIGATION MAIN MUST BE DESIGNED FOR AN AVERAGE DEMAND OF 7.5 GALLONS PER MINUTE PER RESIDENTIAL LOT WHILE PROVIDING AT LEAST 15 GPM TO THE LOWEST PRESSURE SERVICE BASED UPON A 1—INCH RISER, AND MAIN LINE PRESSURE OF 60 PSI AT THE CONNECTION POINT TO THE CITY DISTRIBUTION SYSTEM SUPPLY. THE CITY SUPPLY SYSTEM WILL BE DESIGNED USING A MAXIMUM LOT SIZE OF 10,000 SQUARE FEET, NORMAL OPERATING RANGE OF 50--70 PSI,, 7.5 GALLONS PER MINUTE, PER LOT PEAK HOUR DEMAND, AND ALTERNATE DAY USE (15 GPM DELIVERY RATE TO LOT PEAK HOUR DEMAND). SPRINKLER SYSTEMS ON EACH LOT SHALL BE LIMITED

TO A DEMAND OF 15 GPM, EXCEPT THAT FLOW RATES FOR LOTS GREATER THAN 10,000 SQUARE FEET MAY BE

PROPORTIONALLY INCREASED BASED UPON ACTUAL LOT SIZE. WHEN PRESSURE IRRIGATION LINES ARE INSTALLED IN LANDS THAT ARE NOT YET FINAL PLATTED, MAINS WILL BE INSTALLED IN THE 10 FOOT UTILITY EASEMENT LOCATED ADJACENT TO SUBDIVISION BOUNDARIES AND RIGHT--OF WAY. ADEQUATELY SIZED PVC CASINGS SHALL BE INSTALLED UNDER EACH DRIVE AND NEW ROADWAYS WHERE FUTURE MAINS WILL BE REQUIRED.

LOT SERVICE REQUIREMENTS SHALL BE AS FOLLOWS: IRRIGATION RISERS 10.000 -- 14.000 14,000 -- 21,000 21,000 -- 26,000 THREE 1" OR ONE 1" AND ONE 1.5'

28,000 AND OVER TO BE DETERMINED BY CITY ENGINEER). MINIMUM BURIAL DEPTH FOR ALL IRRIGATION MAINS SHALL BE 3 FEET FROM FINISH GRADE TO THE TOP OF PIPE IF THE PIPE IS FREE--DRAINING EXCEPT WITHIN ROADWAYS. UNDER ROADWAYS OR IN AREAS WHERE THE PIPE IS NOT FREE--DRAINING, A MINIMUM OF 4 FEET OF COVER SHALL BE REQUIRED FROM Finish GRADE.

. PRESSURE IRRIGATION MAIN LINE PIPING SHALL BE CONSTRUCTED OF POLY--VINYL--CHLORIDE (PVC), 200 PSI, SDR 21, CONFORMING TO ASTM D2241, FOR PIPES 3—INCH AND LARGER, AND SCHEDULE 40, CONFORMING TO ASTM D2466 FOR PIPES 2.5—INCH AND SMALLER— ALL JOINTS ON PIPE 3—INCH AND LARGER SHALL BE RUBBER GASKETED. ALL PLASTIC PIPE SHALL BE INSTALLED WITH A #12 DIRECT BURIAL TRACER WIRE PLACED AND TAPED ALONG THE CROWN OF THE MAIN. THE TRACER WIRE SHALL BE LOOPED FROM THE MAIN LINE TO EACH SERVICE BOX ALONG THE SERVICE PIPE AND BACK TO THE MAIN LINE. THE TRACER WIRE SHALL BE ACCESSIBLE AT ALL VALVE BOXES AND SHALL BE EXTENDED ALONG THE OUTSIDE OF THE LOWER PORTION OF THE VALVE BOX AND ALONG THE INSIDE OF THE UPPER PORTION. AN ELECTRICAL CONTINUITY TEST SHALL BE CONDUCTED BEFORE PAVING TO PROVE INTEGRITY OF THE TRACER WIRE. ALL PIPE SHALL BE CLEARLY MARKED WITH TYPE, CLASS AND/OR THICKNESS AS APPLICABLE. LETTERING SHALL BE LEGIBLE AND PERMANENT UNDER NORMAL CONDITIONS OF HANDLING AND

12. ALL FITTINGS SHALL BE CAST IRON, DUCTILE IRON; PVC, BRASS OR STAINLESS STEEL, AND SHALL HAVE A MINIMUM PRESSURE RATING EQUAL TO 200 PSI OR GREATER. ALL FITTINGS 4—INCHES AND LARGER SHALL BE DUCTILE IRON WITH FLANGED OR MECHANICAL JOINTS. THRUST BLOCKS OR OTHER CITY ENGINEER APPROVED RESTRAINTS SHALL BE PROVIDED AT CHANGES OF DIRECTION

5. VALVES FOR SIZES UP TO 3--INCH SHALL BE RISING STEM, SOLID DOUBLE WEDGE DISC, SCREW BONNET, WITH HAND WHEELS. THE VALVE BODY, BONNET, DISC AND STEM SHALL BE BRONZE. VALVE BOXES FOR SIZES UP TO 3—INCH SHALL BE 4—INCH DIAMETER PVC OR ABS PIPE WITH A FEMALE ADAPTER, AND THREADED PLUG WITH SQUARE NUT. VALVES 3 -- INCH AND LARGER SHALL BE RESILIENT WEDGE VALVES CONFORMING TO THE REQUIREMENTS OF AWWA C509, WITH MECHANICAL OR FLANGED JOINTS AND 2--INCH SQUARE OPERATING NUT. VALVE BOXES FOR VALVES 3--INCH AND LARGER SHALL BE A STANDARD CAST IRON 5--1/4 INCH DIAMETER ADJUSTABLE VALVE BOX. 4. ALL IRRIGATION LINES SHALL BE INSTALLED SUCH THAT THEY AUTOMATICALLY VENT AIR DURING THE FILLING AND DRAINING PROCESS. AUTOMATIC AIR/VACUUM RELIEF VALVES SHALL BE INSTALLED AT ALL HIGH POINTS IN THE SYSTEM AND IN LOCATIONS DETERMINED BY THE CITY ENGINEER AS DETAILED IN CITY OF KUNA STANDARD DRAWING IRRIG--01. IN LIEU OF AUTOMATIC VENTS, THE CONTRACTOR MAY INSTALL SERVICES WITH THE TAP ON TOP OF THE MAIN AT THE HIGH POINT, THE SERVICE LINE LAID LEVEL OR RISING TO THE SERVICE BOX AND THE AIR RELEASE SERVICES CLEARLY IDENTIFIED ON PROJECT PLANS.

15. VALVES FOR STREET CROSSINGS SHALL BE PLACED WITHIN 2 FEET OF THE BACK EDGE OF SIDEWALK. 6. ALL IRRIGATION PIPE SHALL BE INSTALLED WITH FINDER TAPE, TAPE SHALL BE 2 INCHES WIDE, METALLIC RED OF PURPLE IN COLOR, WITH THE WORDS 'DANGER-UNSAFE WATER" OR 'NON-POTABLE WATER" CLEARLY MARKED ALONG THE LENGTH OF THE TAPE. TAPE SHALL BE PLACED BETWEEN 6 INCHES BELOW THE SURFACE AND 16 INCHES ABOVE THE TOP OF THE PIPE.

7. INDIVIDUAL IRRIGATION SERVICES SHALL BE INSTALLED FOR EACH LOT AS OUTLINED ABOVE IN ITEM 10. THE IRRIGATION SERVICE SHALL BE CONSTRUCTED AS DETAILED IN CITY OF KUNA STANDARD DRAWINGS IRRIG-02-1 AND IRRIG-02-2. EACH SERVICE SHALL BE EQUIPPED WITH A METAL OR PLASTIC TAG WITH NON-POTABLE WATER-DO

18. ALL IRRIGATION MAINS, FOUR——INCH DIAMETER AND SMALLER, SHALL BE DESIGNED TO FREELY DRAIN AT THE END OF THE IRRIGATION SEASON. "FREELY DRAIN" MEANS TO DRAIN BY GRAVITY INTO A DRAINAGE SWALE, DRAINAGE POND, DRAINAGE DITCH OR ADEQUATELY SIZED DRY WELL. THE DRAIN SYSTEM SHALL INCLUDE MANUALLY OPERATED VALVES AS DETAILED IN CITY OF KUNA STANDARD DRAWING IRRIG-03. UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE CITY ENGINEER, DRAINS SHALL BE LOCATED IN COMMON AREAS, ALONG PATHWAYS OR ALONG STREET

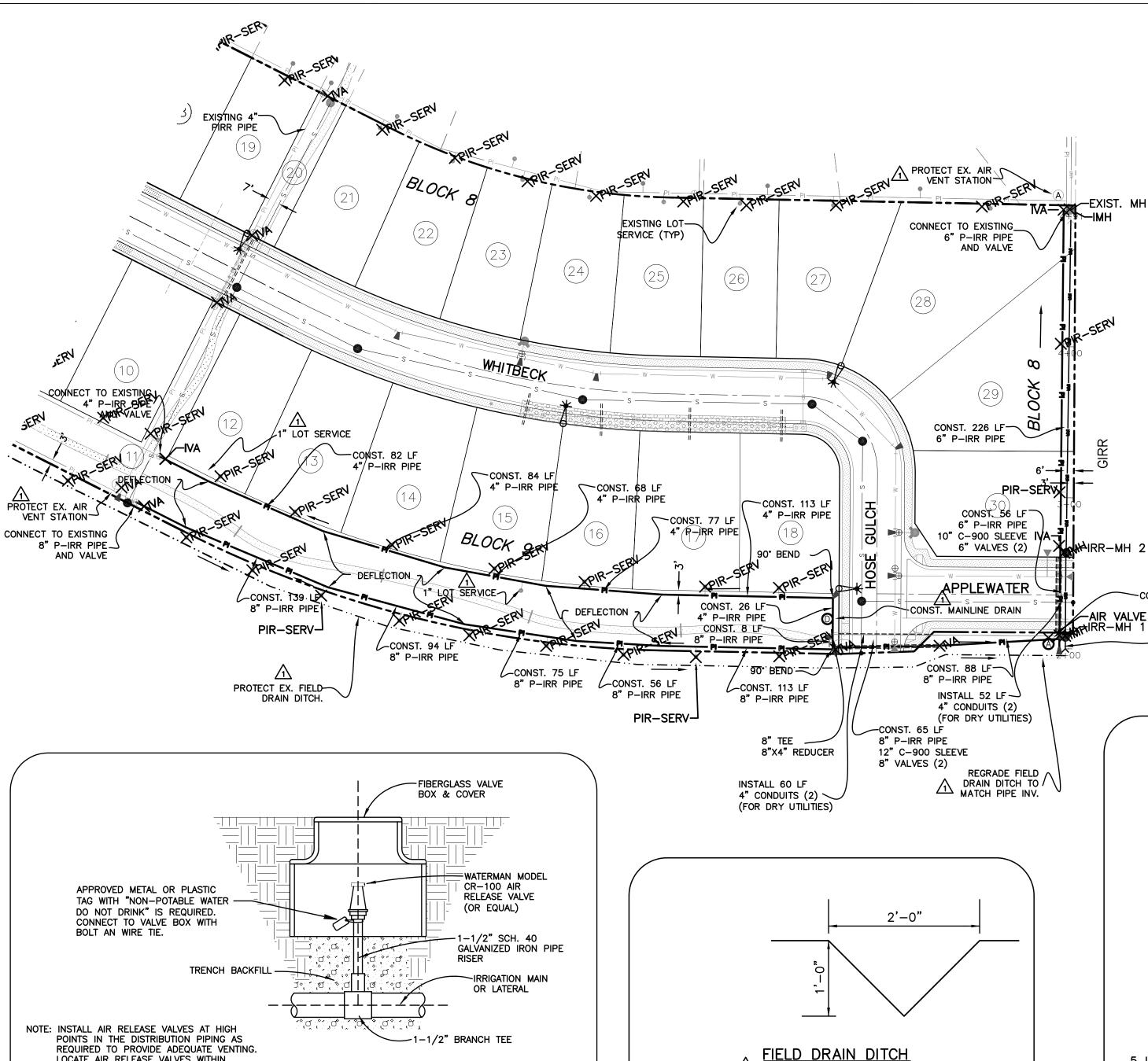
FRONTAGES. 9. ALL INSTALLED IRRIGATION SYSTEMS SHALL BE PRESSURE TESTED FOR LEAKAGE IN ACCORDANCE WITH SECTION 401 OF THE ISPWC SPECIFICATIONS FOLLOWING INSTALLATION OF ALL UTILITIES AND PRIOR TO PAVING. TEST WATER SHALL BE POTABLE WATER FROM THE MUNICIPAL WATER SYSTEM. IF AIR RELEASE SERVICES ARE RELIED ON, THE SERVICE SHALL BE OPENED TO BLEED OFF TRAPPED AIR AND THEN CLOSED FOR THE TEST. THE TESTING MUST BE OBSERVED BY A REPRESENTATIVE OF THE CITY. UPON SUCCESSFULLY PASSING THE FINAL PRESSURE TEST THE IRRIGATION

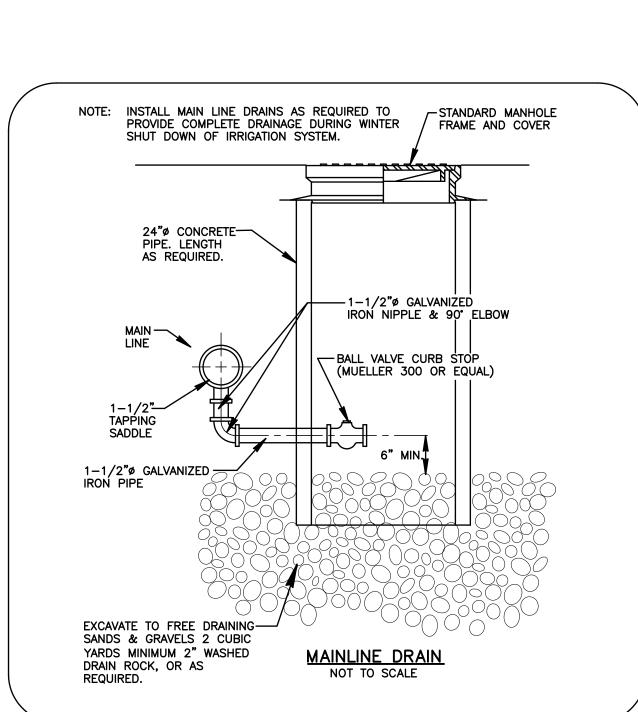
SYSTEM SHALL BE DRAINED. 20. ALL PIPE, MAINS AND SERVICES, SHALL BE BEDDED WITH TYPE I OR TYPE III BEDDING. IN AREAS OF ROCK

EXCAVATION BEDDING SHALL BE 6 INCHES BELOW THE BOTTOM OF PIPE. 1. THE DEVELOPER SHALL SUBMIT COMPLETE PLANS AND SPECIFICATIONS TO THE CITY ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION. EACH DEVELOPMENT IS REQUIRED TO CONSTRUCT ITS PROPORTIONATE SHARE OF THE MAJOR DISTRIBUTION NETWORK (10 & 12--INCH TRUNK LINES) AS DEFINED IN THE PRESSURE IRRIGATION SYSTEM MASTER PLAN. A DEVELOPMENT'S PROPORTIONATE SHARE OF TRUNK LINES IS THIRTY--THREE FEET PER DEVELOPMENT ACRE, OF WHICH A PORTION OF THE COST MAY BE REIMBURSABLE CONSISTENT WITH ADOPTED CITY POLICIES.

2.AT THE OPTION OF THE CITY, AND AS A CONDITION OF DEVELOPMENT, ANY DEVELOPMENT CONSISTING OF SEVENTY-FIVE OR MORE ACRES MAY BE REQUIRED TO MAKE AVAILABLE LAND FOR PURCHASE BY THE CITY, WITHIN THE DEVELOPMENT, FOR INSTALLATION OF AN IRRIGATION PUMP STATION AND/OR STORAGE POND. THE LANDS COST SHALL BE THE DEVELOPER'S RAW LAND COST, PLUS COST OF STREET FRONTAGE IMPROVEMENTS, PLUS COST OF UTILITIES CROSSING THE PARCEL, PLUS THE COST OF POWER SUPPLY OVER--SIZING

3. THE DEVELOPER SHALL NOTIFY ALL LOT PURCHASERS THAT THERE MUST BE NO INTERCONNECTION BETWEEN THE PRESSURE IRRIGATION SYSTEM AND HOUSE PLUMBING. OUTSIDE HOUSE FAUCETS MUST ONLY BE CONNECTED TO THE MUNICIPAL POTABLE WATER SYSTEM THROUGH THE HOUSE SERVICE CONNECTION.



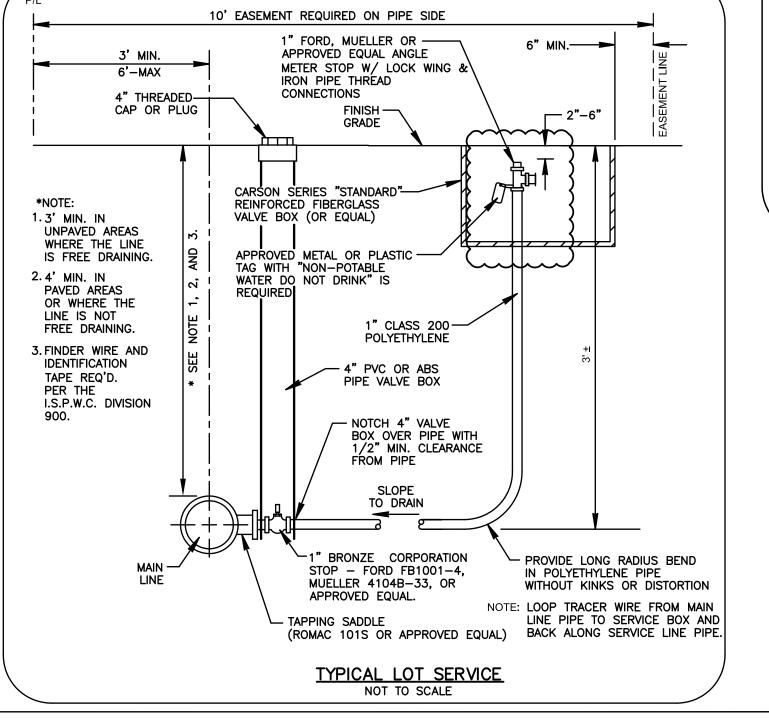


AIR VENT STATION DETAIL

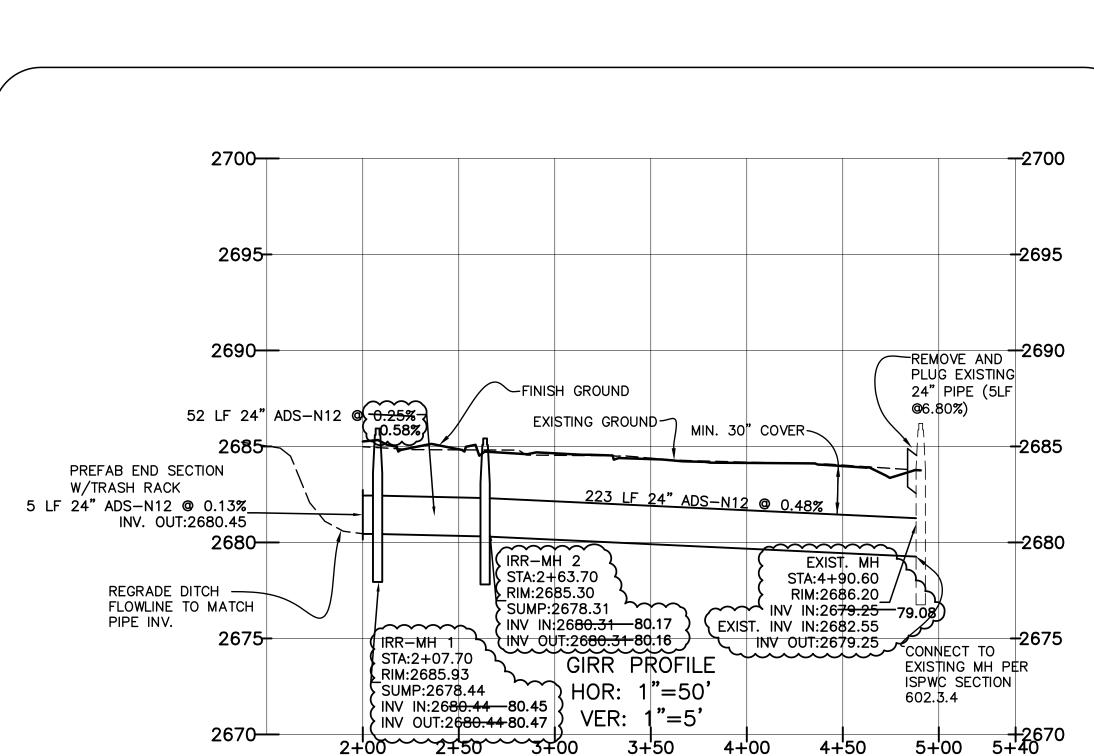
NOT TO SCALE

LOCATE AIR RELEASE VALVES WITHIN

COMMON LOTS OR NEAR ROAD FRONTAGE



NOT TO SCALE



REVISED

RECORD DRAWING 01-28-2015

LEGEND

CENTERLINE

SUBDIVISION BOUNDARY LINE

CONST. PRESSURE IRRIGATION LINE

THRUST BLOCK (PER I.S.P.W.C. SD-403)

RIGHT-OF-WAY LINE

WITH IRRIGATION RISER

GATE VALVE W/RISER

MAINLINE DRAIN

SCALE IN FEET

-CONST. AIR VENT STATION

AIR RELEASE VALVE



- TOP LID ELEV SEE PLAN

SUMP

TYPICAL GRAVITY IRRIGATION MH

(PER I.S.P.W.C. SD-613A)

NOT TO SCALE

ALL IRRIGATION MANHOLES ARE TO BE

SD-613A WITH A MIN. 2' SUMP.

MINIMUM 48" DIA. PRECAST PER I.S.P.W.C.

VARIES SEE PLAN

BOX INV. = LOWEST

PIPE INV. - 24"

ATTACH EXPANDED -METAL LID SECURELY

TO CONCRETE RIM

IRRIGATION PIPE

@ 12" O.C. ÉACH WAY

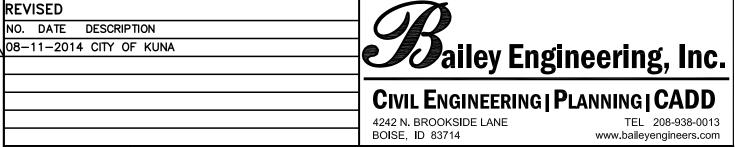
INV. ELEV. SEE PLAN

NOTE:

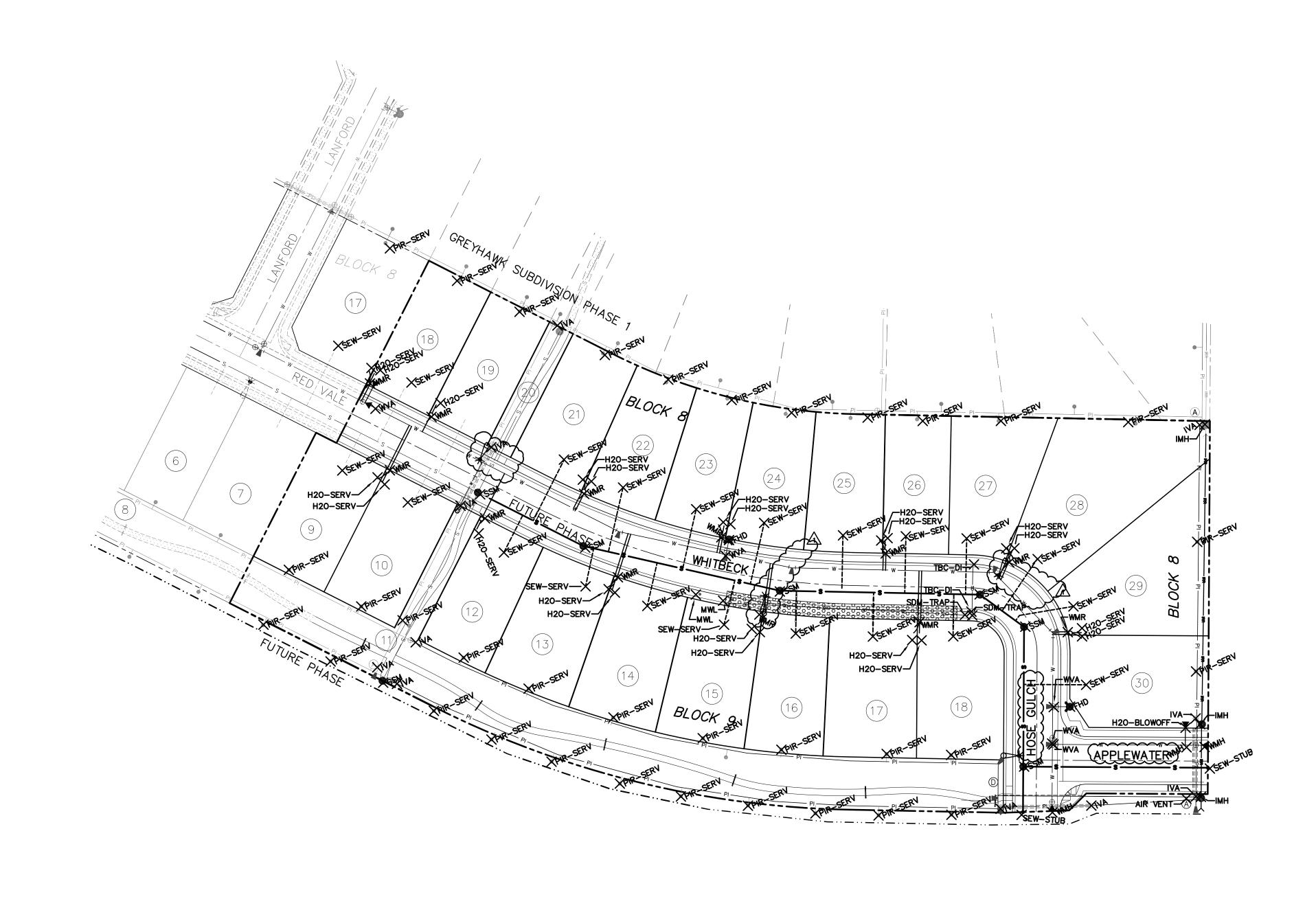
Plans Are Accepted For Public Street Construction

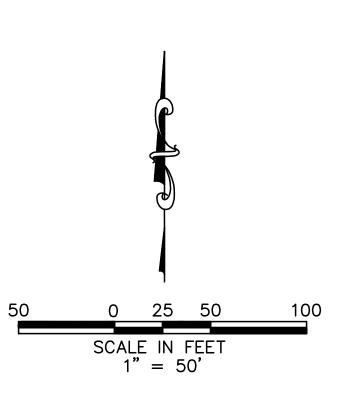
By stamping and signing the improvement plans, the Registered Engineer ensures the District that the plans conform to all District policies and standards. Variances or waivers must be specifically and previously approved by the District in writing. Acceptance of the improvement plans by the District does not relieve the Registered Engineer of these responsibilities.

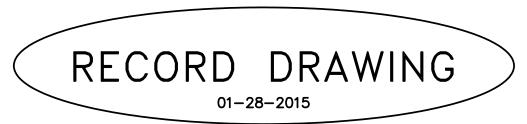
ADA COUNTY HIGHWAY DISTRICT



DRAWN BY: DAB | CHECKED BY: DAVID A. BAILEY P.E. PROJECT: C2012-024 | DATE: 07-23-2014 PRESSURE & GRAVITY IRRIGATION PLAN AND DETAILS GREYHAWK SUBDIVISION NO. 3 HUBBLE HOMES









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BY_____DATE:_____DATE:____

	REVISED							
	NO. DATE DESCRIF							
Λ	08-11-2014 CITY OF KUNA			ailey Engineering, Inc				
					CIVIL	Engineerin	G P LANNING	G CADD
					4242 N. B BOISE, II	ROOKSIDE LANE D 83714		EL 208-938-00° illeyengineers.co
	DRAWN BY: DAB	CHECKED	BY: DAVID A	A. BAILEY P.E.	PROJEC	CT: C2012-024	DATE: 07–23	-2014
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MASTER UTILITY PLAN
GREYHAWK SUBDIVISION NO. 3
HUBBLE HOMES LLC 7.1